

California High-Speed Rail Authority



RFP No.: HSR 13-57

**Request for Proposal for Design-Build
Services for Construction Package 2-3**

**Reference Material, Part A.3
Kings County Improvement Standards**

COUNTY OF KINGS
STATE OF CALIFORNIA

IMPROVEMENT STANDARDS

(May 6, 2003)

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KINGS COUNTY IMPROVEMENT STANDARDS

ARTICLE 1 -- GENERAL

Section 101-- Purpose of Standards

The purpose of these standards is two-fold:

A. Board Policy

To represent the policy of the Board of Supervisors with respect to when and how improvements must be provided in developments.

B. Engineering Reference

To serve as an engineering reference for Kings County staff and others in the following areas of development:

1. Development Conditions - these standards shall be consulted when requirements of an engineering or public works nature are to be applied to a project as conditions of development.
2. Development Design - these standards shall be used by developers' engineers when designing development improvements for County approval and by Public Works staff when reviewing improvement plans.
3. Development Inspection - these standards shall be referenced by private contractors when constructing improvements to County requirements and by Public Works staff when inspecting such improvements for preliminary and final approval.

Section 102 -- Application

These standards shall apply to both on-site and off-site improvements in any development, including, but not being limited to, streets, street appurtenances, water supply and distribution, storm drainage, and sewage disposal. These standards may also be applied to

the design. Other facilities shall be designed and constructed to these standards when so directed herein, or by other proper authority.

Section 103 -- Interpretation

In the event any section or sections of these standards are unclear or ambiguous, that section (or sections) shall be interpreted by the Agency or County official specifically assigned responsibility in said section or sections.

Section 104 -- Appeals

Decisions relating to the applications of these standards are appealable in the manner set forth in the Subdivision Map Act or Zoning Ordinance whichever applies to the provision being appealed.

Section 105 -- Revision of Tables

Any one or all of the design tables and/or drawings may be revised by Minute Order of the Board of Supervisors.

Section 106 -- Public Notice of Revisions

Prior to revision of any tables as described in Section 105, or prior to revision of any part or all of these Standards, Public Notice shall be published at least one week before presentation to the Board of Supervisors for consideration.

Section 107 -- Definition

A. Decision Maker - shall be that person, officer, or agency having responsibility or jurisdiction with respect to the development being considered:

1. For divisions of land the decision maker shall be the Advisory Agency as defined in the Subdivision Ordinance of Kings County, and
2. For a "site plan review" or a "conditional use permit," the decision maker shall be the person or body designated in the Kings County Zoning Ordinance.

- B. Appeal Board - Defined in Section 21-06 of the Subdivision Ordinance of Kings County.
- C. A. W. W. A. - This shall apply to the most current standards of the American Water Works Association.
- D. Central Water System - A domestic water supply system serving two or more lots.
- E. County - The term "County" shall refer to the County of Kings, State of California.
- F. City Fringe Area - All that unincorporated territory designated in a city General Plan area for all uses except "Agriculture." In those areas designated "Agricultural" by a city General Plan, the Kings County Improvement Standards shall apply as applied to all other Agricultural land in the County territory.
- G. CSD/PUD Area - All that unincorporated territory in and around a community services district (CSD) or public utility district (PUD) designated by the Kings County General Plan for urban uses.
- H. Development - This term shall be defined as follows:
1. Any division of land, (excepting parcels exempt from filing requirements under Sections 21-92 of Chapter 21 of the Subdivision Ordinance, and
 2. Any proposed development requiring a "site plan review," or a "conditional use permit" as required under the County Zoning Ordinance, except for a site plan review for a mobile home review.
 3. Any construction requiring a building permit for a structure within a City Fringe Area, or in a CSD/PUD Area designated for urban uses in Kings County General Plan.
- I. Development Density (Low, Medium, and High) - The Decision Maker shall determine the area to be included in computing development density. In Urban and Residential developments, density classification in terms of zone districts and land uses permitted therein are contained in the Land Use Designation Equivalency Chart listed in the Kings County General Plan:
- J. Land Use - The terms describing the permitted use of any lot shall be defined in the Kings County Zoning Ordinance (Ord. #269, as amended).

- K. Division of Land - A division of land shall be a division requiring a Tentative Map, Tentative Parcel Map, Final Map, In-Lieu Parcel Map Parcel Map as described in Section 66426 of the Subdivision Map Act or any local ordinance enacted under authority of the Board of Supervisors.
- L. Public Agency - This shall include any agency which may raise revenue by taxation.
- M. Road Classification - The classification of any section of road shall be as shown on the Circulation Element of the General Plan. On new roads or other roads not illustrated in the General Plan, the Decision Maker, after consultation with the Public Works Director, shall establish a classification for the purpose of implementing these standards.
- N. State Standard Specifications - These specifications shall refer to the most current edition of the "California Department of Transportation, Standard Specifications."
- O. Uniform Plumbing Code - This shall refer to the most current edition of the "Uniform Plumbing Code" adopted by the County.
- P. Urban - The term "urban" used in these standards shall refer to the definition contained in the Kings County General Plan.

Section 108 --Waivers and Deviations from Standards

- A. General - The Decision Maker, Appeals Board, or the County department may make decisions and interpretations only with respect to those sections in which a decision or interpretation is specifically assigned, by these Improvement Standards, to that Decision Maker, Appeals Board, or County department. Only improvements specifically mentioned herein may be required in any development, except that the Decision Maker, Appeals Board, or County department may require any reasonable improvements not mentioned herein, if they are deemed necessary for public health and safety.
- B. Conformance to other Standards -
 - 1. The Decision Maker shall require imposition of and conformance to city and community services or public utility district standards for public improvements when developments are in a City Fringe Area or CSD/PUD Area unless said agency requests that the development be made to conform to Kings County Standards. Such improvements shall

be limited to only those types of improvements that are required to be constructed under these Standards.

2. Where the city or community services or public utility district has established fees for sanitary sewer, water, and storm water facilities, or any other services being provided to the developer, they may impose those fees on the developer.

C. Standards as Applied under Zoning Ordinance - Where these standards are applied under authority of the zoning ordinance the Decision Maker, as designated therein, shall consult with the appropriate departments and may waive requirements specified herein which are determined by the Decision Maker to be 1) excessive considering the extent of the proposed use, and 2) the improvements waived would have been nonfunctional and of no benefit to the public and/or the developer. In addition, the Decision Maker shall make the following findings before waiving requirements specified herein.

1. Strict or literal interpretation and enforcement of the specified regulation would result in practical difficulty or unnecessary physical hardship inconsistent with the objectives of the zoning ordinance.
2. There are exceptional or extraordinary circumstances or conditions applicable to the property involved or to the intended use of the property which do not apply generally to other properties classified in the same zoning district.
3. Strict or literal interpretation and enforcement of the specified regulation would deprive the applicant of privileges enjoyed by the owners of other properties classified in the same zoning district.
4. The waiving of the requirements will not constitute a grant of special privilege inconsistent with the limitations on other properties classified in the same zoning district.
5. The waiving of the requirements will not be detrimental to the public health, safety or welfare, or materially injurious to properties or improvements in the vicinity.

D. The Board of Supervisors may waive any or all of these standards by Minute Order when it is determined that special conditions exist which make conformance to these standards

unreasonable. In addition, Board of Supervisors shall make the following findings before waiving requirements specified herein:

1. Strict or literal interpretation and enforcement of the specified regulation would result in practical difficulty or unnecessary physical hardship inconsistent with the objectives of the zoning ordinance.
 2. There are exceptional or extraordinary circumstances or conditions applicable to the property involved or to the intended use of the property which do not apply generally to other properties classified in the same zoning district.
 3. Strict or literal interpretation and enforcement of the specified regulation would deprive the applicant of privileges enjoyed by the owners of other properties classified in the same zoning district.
 4. The waiving of the requirements will not constitute a grant of special privilege inconsistent with the limitations on other properties classified in the same zoning district.
 5. The waiving of the requirements will not be detrimental to the public health, safety or welfare, or materially injurious to properties or improvements in the vicinity.
- E. The Appeals Board may waive requirements established as a result of a judgement of the Decision Maker in interpreting these Improvement Standards, as they are applied under the Subdivision Map Act.

Section 109 -- Inspection

During the construction and/or installation of any facilities required herein, the County or other concerned public agency shall have the right to inspect such facility.

Section 110 -- Deferring Construction of Improvements

Whenever improvements are required to be constructed on-site or off-site such construction may be deferred when construction of the improvements is determined by the Decision Maker not to be currently feasible. The developer or any subsequent lot owners will be required to construct when the reason for deferment is gone.

1. The agreement shall contain language to the effect that if the owner fails to perform after given notice to construct, then the agency may construct the land and a lien may be placed on the parcel being developed,
2. The agreement shall contain language to the effect that upon annexation to any city, that the city shall succeed to the rights under the agreement.
3. The deferred improvement agreement shall be recorded against the parcel of land being developed, and

Section 111 -- Right of Way Dedications

All developments as defined in Sec. 107-H shall be subject to right-of-way dedications. Right-of-way dedications required as a condition of development shall be made prior to the issuance of building or construction permits. No deferment of such right-of-way dedication shall be permitted unless approved by the Decision Maker.

Section 112 -- Maintenance of Improvements

Roads, and their appurtenant structures, classified as "Minor" and required to serve the development shall be constructed by the Developer and will not be accepted into the County system of Maintained Roads. Instead, the Developer shall, at the time of development, provide for the maintenance of Minor roads and their appurtenances by establishing a zone of a Zone of Benefit under the Countywide Service Area #4.

The zone shall be formed as follows:

The developer shall be responsible for petitioning the Board of Supervisors to form a zone of benefit. The petition shall be on a form acceptable to the Director of Public Works and shall contain the signatures of all holders of record title interest in the property to be divided and a legal description of the property. All holders of record title interest shall consent to the formation of the zone of benefit and consent to the levy of assessments against the development. The formation of the zone of benefit and the levy of assessments shall be a condition of Final or Parcel Map recording or shall be a requirement of an appropriate Development Agreement.

In an area immediately adjacent to a Zone of Benefit formed for road maintenance purposes, the roads may be annexed into said Zone of Benefit if the Decision Maker determines such an annexation is in the public interest. All costs associated with this annexation shall be borne by the Developer.

Roads that are classified as Collectors or Arterials will be accepted by the County into the System of County Maintained Roads. The Decision Maker shall decide the classification of roads to be provided under these standards. In deciding the classification, the Decision Maker shall consider the Circulation Element of the County's General Plan and/or the criteria set forth in Table 2013A.

Section 113 -- Assessment District Policy

The Public Works staff may participate in assessment district proceedings to the following extent:

A. Assessment Engineering

When a good faith proposal, as determined by the Public Works Director, is made requesting staff participation in assessment district formation efforts, the Public Works Department may perform assessment engineering under the following terms: 3% of the construction contract, provided the amount shall be no less than \$2,000.00. Such engineering work shall be limited in scope to assessment engineering as defined in the applicable State codes, i.e., feasibility studies, maps & diagrams, assessment spread & engineers report, and posting & filing of notices, etc.

B. Design Engineering

In special cases, as determined by the Public Works Director, staff participation in assessment district formation and the design of the assessment district improvements shall be permitted under the following terms: 9% of the construction contract, provided the amount shall be no less than \$12,000.00. Such engineering work shall include within its scope all project assessment engineering as defined in Sec. 113-A above, plus the preparation of all construction plans, estimates, and specifications. The above terms shall be used as guidelines for the specific negotiated engineering agreement for each

assessment district proceeding. Construction staking and construction inspection of improvements shall be separate from the above and subject to negotiation on a case-by-case basis.

C. Assessment District Administration

Subsequent to the levying of assessments and the construction of district improvements, the following administrative work may be performed by the Public Works Department staff:

1. Property Owner Assistance. In cases where property owners may defer connection to the assessment district facilities, i.e. water and sewer systems etc., the cost to the County Surveyor's Office for such deferment in terms of research and assistance in locating the facilities shall be defrayed by the individual property owner. The fee for such assistance shall be the actual cost thereof as authorized by resolution of the Board of Supervisors.
2. Annual Expenses. Each lot or parcel's pro rata share of annual expenses incurred by the County in the performance of any function of administration in connection with assessment districts shall be entered in the assessment roll opposite each lot or parcel of land affected. The expenses shall include a pro rata amount of the salaries of the County employees involved in the performance of the functions and all other costs incurred by the County in connection with the functions. The annual pro rata share of expenses shall be authorized by resolution of the Board of Supervisors.
3. Segregation of Assessments. In cases where property within an existing assessment district undergoes a land division, the cost to the County Surveyor's Office for segregating the assessment to the parcels or lots formed thereby according to State law shall be defrayed by the property owners. The fee for such segregation, including the amendment of maps and the notification of assessment bond holders, shall be the actual cost thereof as authorized by resolution of the Board of Supervisors.

ARTICLE 2 -- DESIGN OF STREETS AND STREET APPURTENANCES

Section 201 -- General

Street, street appurtenances, and right-of-ways referred to or illustrated herein shall be constructed or furnished in the manner described in the following sections. The Decision Maker may waive or reduce the requirement for road improvements within the existing or proposed road right-of-way or easement under the following conditions: 1) the proposed development is on property zoned for a use inconsistent with the classification of the adjacent road, and 2) such improvement would be of a type greater than that consistent with the zone of the property. (For example, when an R-1-8 zone fronts on an urban collector, then urban collector road improvements may be waived.) Existing pavements need not be widened when the additional width required is less than four (4) feet. When asphalt concrete pavement is indicated in these standards, and where pavement widening is required, asphalt concrete may be waived in lieu of the existing pavement type if: 1) the added width would be less than one-half pavement width, and 2) there is no curb and gutter placed at a planned grade.

Section 202 -- Streets and Rights-of-Way

A. Agricultural lots 10 acres and less

The Decision Maker shall require a guarantee of access to any lots not having access to a public road.

1. For developments that have no access to existing County Maintained roads Owner shall be required to provide easements and construct an access lane in conformance with Design Table #2013. This access shall not be dedicated to the County.
Easements granted as a requirement under this section shall be granted for the benefit of the public and shall not be accepted by the County (refer to Section 112 on page 7).
2. For developments in this category with lots greater than 5 acres fronting on existing county roads the Owner may be required to dedicate right-of-way and provide street improvements along such existing public roads in conformance with Drawing 2013 of these Improvement Standards. For lots 5 acres and under, the Owner shall dedicate

right-of-way and provide street improvements in conformance with Drawing 2013, Any division greater than a nominal 10 acres are exempt from the requirements in this Section.

B. Developments with minor roads

Developments in this category include developments with urban minor, and residential minor classifications as determined in Table 2013A shall provide right-of-way and street improvements in accordance with Design Table 2011, for Residential, and Design Table 2012 for Urban Road classifications (the corresponding Drawings are 2011 and 2012). The Decision Maker may defer these requirements only if it is determined by the Decision Maker that the easement thus provided would not be immediately functional. If the minor road to be constructed is an extension of an existing County maintained road, the County will accept the road into the County system when constructed to meet or exceed the standards of the existing road or the standards contained in these improvement standards, which ever is greater.

C. Developments requiring an Arterial or Collector Road

Developments in this category will be required to furnish streets and rights-of-way as illustrated in Design Tables 2011 and 2012, for an Arterial or Collector Road as defined by Table 2013A.

DESIGN TABLE 2011

RESIDENTIAL ROAD REQUIREMENTS

	Residential Minor Density is			Residential Collector Density is		
	Dwelling Units Per Acre			Dwelling Units Per Acre		
Design Feature	<2	2 to 7	> 7	<2	2 to 7	> 7
	Low	Medium	High	Low	Medium	High
Right of Way	50'	56'	56'	60'	60'	60'
Pavement Width	26' or 36'	36'	36'	32' or 40'	40'	40'
Type Curbs	#	Vertical Face	Vertical Face	#	Vertical Face	Vertical Face
Sidewalk Width	None	5' or 5 ½'	5' or 5 ½'	None	5' or 5 ½'	5' or 5 ½'
Sidewalk distance from curb face	None	5' or attached	5' or attached	None	5' or attached	5' or attached
Minimum Stopping Sight Distance	200'	200'	200'	250'	250'	250'
Maximum Grade	4%	4%	4%	4%	4%	4%
Maximum cul-de-sac length**	1320'	500'	500'	No cul-de- sacs*	No cul-de- sacs	No cul-de- sacs
Minimum cul-de-sac radius of right-of-way (with or without curb)	50'	50'	50'	No cul-de- sacs*	No cul-de- sacs	No cul-de- sacs
Design speed	30 mph	30 mph	30 mph	35 mph	35 mph	35 mph
Minimum centerline radius	250'	250'	250'	350'	350'	350'
Minimum tangent between curves	70'	70'	70'	100'	100'	100'
Off street parking	See Section 15 of Ordinance #269					

* May be allowed as interim in phase development to accommodate traffic.

** Number of dwellings served shall not exceed twenty (20).

Curbs and gutters are not required if adequate setbacks are provided (Section 404C).

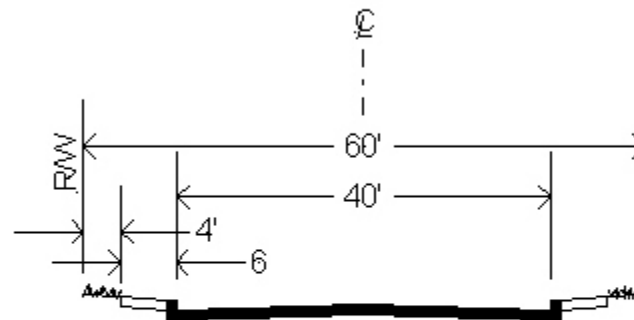
ROAD CLASSIFICATION	DEVELOPMENT DENSITY		ALTERNATE SIDEWALK POSITION					
RESIDENTIAL MINOR	LOW		N/A					
RESIDENTIAL MINOR	MEDIUM & HIGH							
RESIDENTIAL COLLECTOR	LOW		N/A					
RESIDENTIAL COLLECTOR	MEDIUM & HIGH							
<p><u>LEGEND</u></p> <p> PAVED STREET W/ CURB & GUTTER</p> <p> CONCRETE SIDEWALK</p> <p> PARKWAY</p>		<p>NOTE:</p> <p>ALL CROSS SLOPES ARE 2% MINIMUM</p>	<p>COUNTY OF KINGS</p> <p>DEPARTMENT OF PUBLIC WORKS</p> <p>DRAWING NO. 2011</p> <p>TYPICAL GEOMETRIC SECTIONS</p> <table> <tr> <td>SCALE: N.T.S.</td> <td>BY:</td> <td rowspan="2">1/1</td> </tr> <tr> <td>DATE: 8/6/02</td> <td>APP:</td> </tr> </table>	SCALE: N.T.S.	BY:	1/1	DATE: 8/6/02	APP:
SCALE: N.T.S.	BY:	1/1						
DATE: 8/6/02	APP:							

DESIGN TABLE 2012
URBAN ROAD REQUIREMENTS

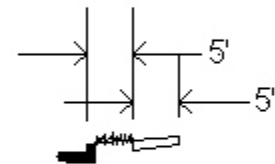
Design Feature	Minor	Collector	Arterial
Right of Way width	60'	84'	100'
Curb-to-Curb width	40'	64'	84
Type Curbs	Vertical	Face: see drawing	#3031
Sidewalk width	5 ½'	6 ½'	7 ½'
Distance from curb face to sidewalk (for alternate detached sidewalk)	5'	4'	Attached walk required
Minimum stopping sight distance.	275'	350'	475'
Maximum grade	5%	4%	3%
Design speed	40 mph	50 mph	60 mph
Minimum centerline radius	550'	850'	1150'
Minimum tangent between curves	100'	200'	250'
Off street parking	See Section 15 of Ordinance #269		

**ROAD
CLASSIFICATION**

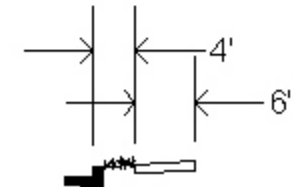
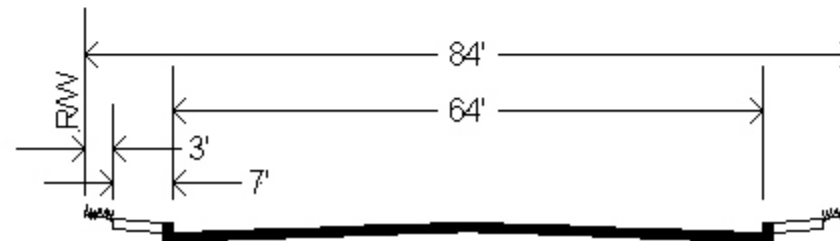
URBAN MINOR



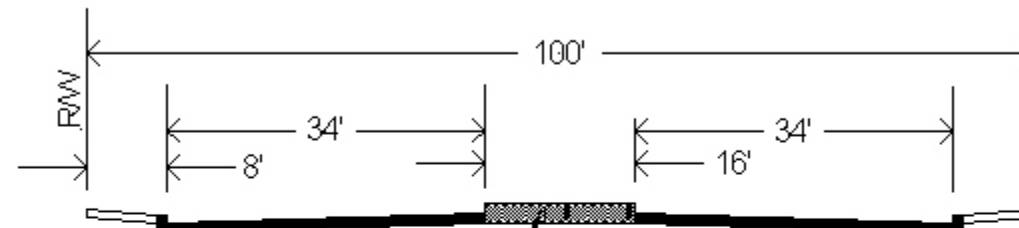
**ALTERNATE
SIDEWALK
POSITION**



URBAN COLLECTOR



URBAN ARTERIAL



County Approved Median Surface

NOTE:

1. SEE DRAWING NO. 2011 FOR LEGEND
2. ALL CROSS SLOPES ARE 2% MINIMUM.

COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 2012
TYPICAL GEOMETRIC SECTIONS

SCALE: N.T.S.

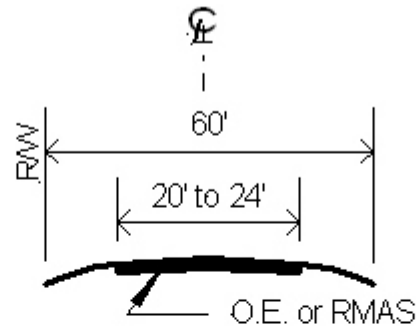
DATE: 8/6/02

BY:

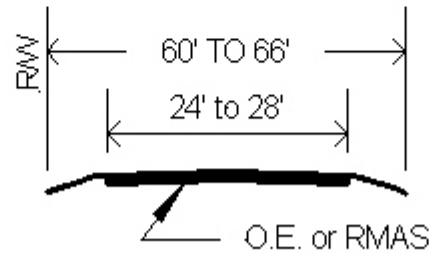
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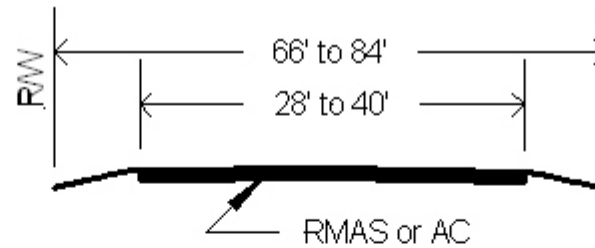
RURAL MINOR



RURAL COLLECTOR



RURAL ARTERIAL



LEGEND

O.E. Oiled Earth

RMAS Road Mixed Asphalt Surfacing

A.C. Asphalt Concrete

NOTE:

ALL CROSS SLOPES
ARE 2% MINIMUM

COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 2013
TYPICAL GEOMETRIC SECTIONS

SCALE: N.T.S.

BY:

DATE: 8/6/02

APP.:

1/1

TABLE 2013
RURAL ACCESS LANE DESIGN STANDARDS

No. Parcels Served (including remainder parcel)	Easement Width	Pavement Width	Base Thickness	Surfacing
1-3	18'	16'	3" AB or DG	Oil Penetration
4 and greater	26'	20'	AB determined by design	RMAS or AC Using Caltrans Pavement Design Criteria

Notes:

1. A County Encroachment Permit is required for connections with County maintained roads.
2. Penetrating oil shall be SC 250 or SC 800 spread at a minimum rate of 0.50 gals/sy.
Compaction of OG and AB shall be a minimum of 90% with tests taken as directed by the Director of Public Works
3. These standards may be waived if a design is proposed, and approved by the decision maker, by a licensed Civil Engineer and certified by said engineer as suitable for the traffic anticipated for the development. If the alternate design does not provide a continually durable dust free surface, owner(s) shall be required to provide a roadway surface per Table 2013.
4. Roads will be constructed with a 50 foot radius cul-de-sac when the length of roadway meets or exceeds the maximum length as shown under the Residential Minor requirements of Design Table #2011.

TABLE 2013A
ROAD CLASSIFICATION PROPERTIES

ROAD CLASSIFICATION	10 YEAR ADT	TRIP LENGTH	SERVICE LINKAGE	AVG. SPACING	TYPE OF ACCESS	MIN. LENGTH	OWNERSHIP/ MAINT. RESPONSIBILITY
URBAN ARTERIAL	>10000	50%>1 MILE	ARTERIAL TO ARTERIAL	>1 MILE	CONTROLLED BY MEDIANS AND CURBS	1 MILE	COUNTY/ COUNTY
URBAN COLLECTOR	5000 TO 10000	25 TO 50%> 1 MILE	ARTERIAL TO ARTERIAL OR COLLECTOR	½ TO 1 MILE	CONTROLLED BY OCCASIONAL MEDIANS AND CURBS	½ MILE	COUNTY/ COUNTY
URBAN MINOR	<5000	<25% EXCEED 1 MILE	ANY	ANY	CONTROLLED BY CURBS ONLY	ANY	PRIVATE/ PRIVATE
RESIDENTIAL COLLECTOR	500 TO 1000	>50% EXCEED 1/4 MILE	COLLECTOR TO COLLECTOR OR MINOR	¼ TO ½ MILE	CONTROLLED BY OCCASIONAL MEDIANS AND CURBS	¼ MILE	COUNTY/ COUNTY
RESIDENTIAL MINOR	<500	<50% EXCEED 3 MILES	ANY	>4 MILES	TOTAL ACCESS WITH SOME CONTROL AT MAJOR INTERSECTIONS	ANY	PRIVATE/ PRIVATE
RURAL ARTERIAL	>1000	25 TO 50% EXCEED 3 MILES	STATE HIGHWAY, CITY TO CITY OR ARTERIAL	2 TO 4 MILES	TOTAL ACCESS	5 MILES	COUNTY/ COUNTY
RURAL COLLECTOR	500 TO 1000	<25% EXCEED 3 MILES	ARTERIAL TO TOWN OR ARTERIAL	2 TO 4 MILES	TOTAL ACCESS WITH SOME CONTROL AT MAJOR INTERSECTIONS	3 MILES	COUNTY/ COUNTY
RURAL MINOR	<500	<25% EXCEED 3 MILES	ANY	ANY	TOTAL ACCESS	ANY	PRIVATE/ PRIVATE

DESIGN TABLE 2014

INTERSECTION DESIGN

	Road Classification		
Design Feature	Urban	Residential	Rural
Approach	35 mph	25 mph	70 mph
Minimum angle of intersection	75°	75°	60°
Minimum radius of right-of-way at corners	10'	10'	Recommended by Public Works
Minimum curb (or edge of pavement) radius	20'	20'	Recommended by Public Works
Minimum distance between intersection	220'***	150'***	N/A
Maximum distance between intersections	*	*	N/A

* The maximum distance between intersections proposed by the developer shall be reviewed by the Decision Maker upon the consideration of the following: 1) inconvenience caused to people within the development, 2) expected traffic volumes, and 3) difficulty for emergency vehicles to access development.

** Any proposed distance less than minimum shall be supported by a traffic study, signed by a licensed Traffic Engineer. The distance proposed by developer shall be reviewed

Section 203 -- Curbs & Gutters and Parking Lanes

Curbs & gutters and parking lanes shall be constructed in residential and urban development as shown in Design Tables 2011 and 2012. Except for divisions of land creating 5 or more developable lots, the Decision Maker may defer or waive requirements for curbs and gutters in any development under the following conditions:

A. Not Within City Fringe Area or CSD/PUD Area

In developments that are not within a City Fringe Area or CSD/PUD Area and where the developer provides for drainage by the method described in Section 404 of these Improvement Standards improvements may be waived.

B. Within City Fringe Area or CSD/PUD Area

Where, within a City Fringe Area or CSD/PUD Area the curbs & gutters and parking lanes shall be required but may be deferred until grades are available.

C. In Industrial or Commercial developments

These developments over 1 1/2 acres in size, storm drainage disposal or retention is provided for by one of the methods described in Section 404 of these standards, and it is expected that future use of the parcels will not be adversely affected by such storm water disposal.

D. In low density subdivisions

In these developments where the requirements of Section 404-C are met. The installation of curbs and gutters will not be allowed unless (1) gutter grades have been or will be established as part of a community drainage plan, or (2) the developer establishes a gutter grade which extends at least one block and provides evidence that the drainage water will not be a nuisance or problem to the neighborhood. See Sec. 303-A of these standards for construction requirements.

Section 204 -- Sidewalks

Sidewalks shall be constructed in residential and urban areas as shown in Design Tables 2011 and 2012. The Decision Maker may waive requirements for sidewalks in any development, except land divisions creating 5 or more lots, if a substantial amount of adjoining lots have been improved without sidewalks. See Sec. 303-B of these standards for construction requirements.

Section 205 -- Drive Approaches

Drive approaches shall be installed whenever off street parking is required. Within the County right-of-way, drive approaches shall be constructed of at least the same type of surfacing as the road to which it connects, except that drive approaches shall be concrete when concrete curbs and/or sidewalks are required (refer to Design Tables 2011, 2012, and 2013). Drive approaches shall be constructed to the minimum standards shown in Design Table 2031 and Drawing 2031. See Sec. 303-C of these standards for construction requirements.

Section 206 -- Traffic Signs

The developer or subdivider shall furnish and place at least one street name sign at each intersection, regardless of the road classification. Regulatory and warning signs shall also be installed at those locations which warrant such signs under current County signing policy. The sign location and design shall be subject to the approval of the Director of Public Works.

Section 207 -- Alleys

Alleys may be desirable in high density residential or commercial developments. The use of alleys must receive approval of the Kings County Planning Commission. When alleys are required or approved, they shall be paved to the full width of the alley. Alleys twenty-four (24) feet to thirty (30) feet in width may be required at the rear of lots in existing or proposed multi-family residential, transitional, professional office, commercial, or industrial zones. Alleyways will be dedicated for public use, but not to the county. The Decision Maker must determine that the proposed alley serving a high density use will result in less traffic conflict and use on the road to which the development fronts. (For example, many commercial establishments will receive deliveries from the rear of the lot if an alley is available.) The county will not be responsible for maintenance of alleys once constructed.

Section 208 -- Cul-de-sacs

The minimum cul-de-sac radius of right-of-way, and the maximum lengths are shown in Design Table 2011. The geometric design of cul-de-sacs shall be as shown on Drawing

2061. Cul-de-sacs employing other designs may be used if approved by the Director of Public Works.

Section 209 -- Street Names

Roads and streets shall be given names in accordance with the criteria shown in Drawing 2081.

Section 210 -- Streets Adjoining Undeveloped Land

Streets proposed or required adjacent to the boundaries of a development (boundary street) may be improved to less than ultimate. The minimum improvement allowed shall not be less than that shown on Drawing 2091 and Drawing 2092 for Residential and Urban Streets. Any rural streets allowed to be developed at less than ultimate widths, pursuant to this Section, shall be to two-thirds width. Streets within and terminating at the boundaries of a development (stub streets) shall be required to provide a reflective traffic barrier and/or cul-de-sac. In determining the location of "stub streets" and/or the allowance of less than fully developed "boundary streets" the Decision Maker shall consider the following: 1) The existence of "boundary" or "stub" streets will not constitute a traffic hazard, drainage problem, or public nuisance. 2) The adjoining, undeveloped land is capable of being developed in a manner which will allow for the extension of or widening of the street in question into a safe and logically arranged road. 3) There is evidence that the adjoining, undeveloped land will develop into a use that requires the type of street proposed, and will do so within ten (10) years. In either of the foregoing cases of "boundary" streets or "stub" streets, the Decision Maker may require that a one (1) foot barrier reserve strip be reserved on the final map or otherwise created to protect against adverse access and yet provide for a future extension of these streets.

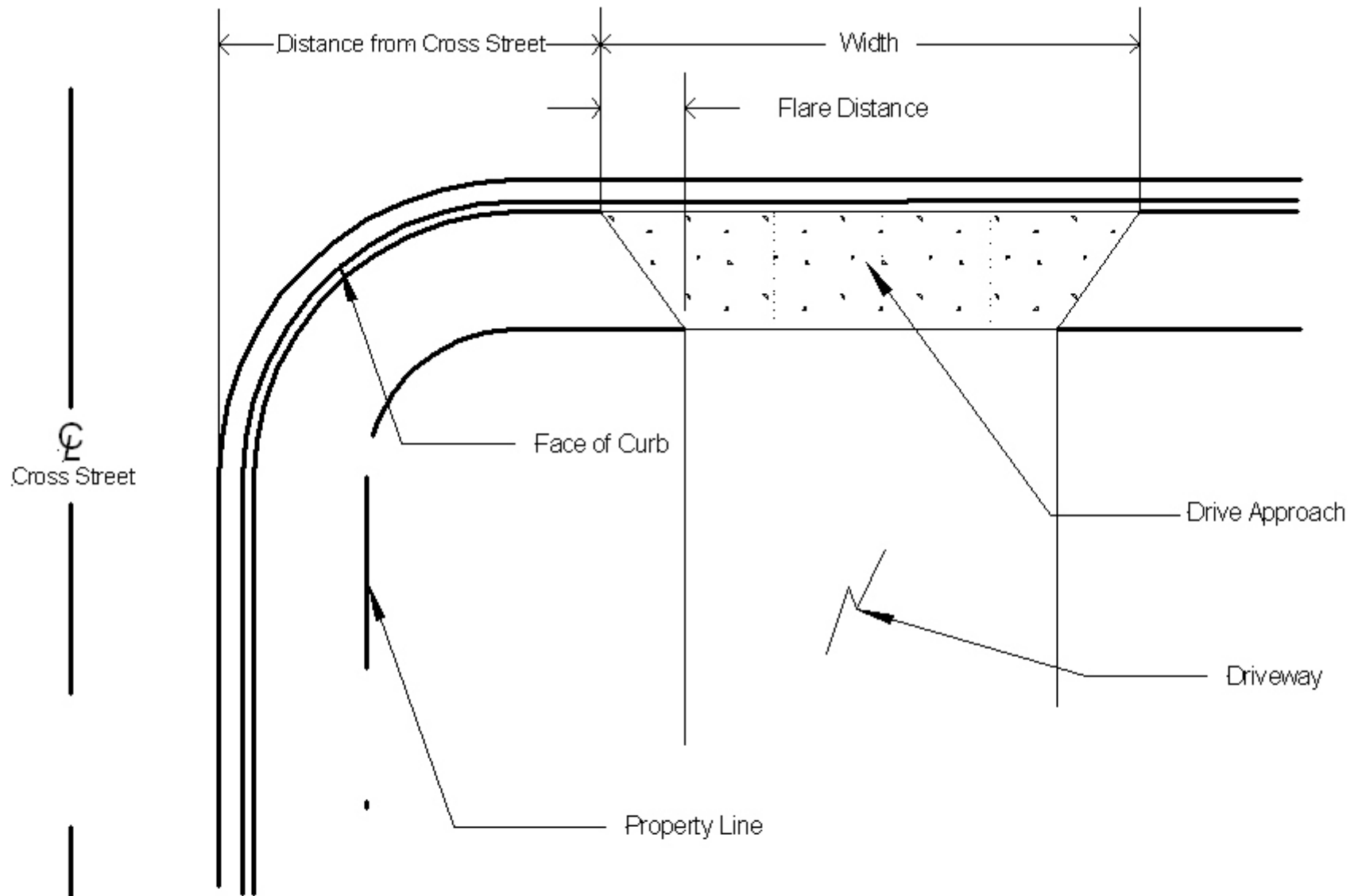
Section 211 -- Parking Lots

Parking lots required as a condition of development shall conform to the Zoning Ordinance as to size, location, and layout. See Sec. 303-G of these standards for construction requirements.

DESIGN TABLE 2031
DRIVE APPROACH REQUIREMENTS

Design Feature	Road Classification	
	Residential	Urban
Minimum width	16'	25'
Maximum width	30'	35'
Minimum distance from cross street (near curb)	25'	30'
Maximum % steepness of drive approach	8%	8%
Flare	3'	5'
Maximum % of frontage in driveway opening (measured at face of curb)	40%	50%
Minimum distance between driveways (measured at face of curb edge to edge)	24'	20'

* Refer to Drawing 2031 for definition of terms.



NOTE:
IN AREAS WITH NO CURB AND GUTTER
THE EDGE OF PAVEMENT WILL BE
CONSIDERED THE FACE OF CURB.

REFER TO DESIGN TABLE #2031

COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 2031
DRIVE APPROACH STANDARDS

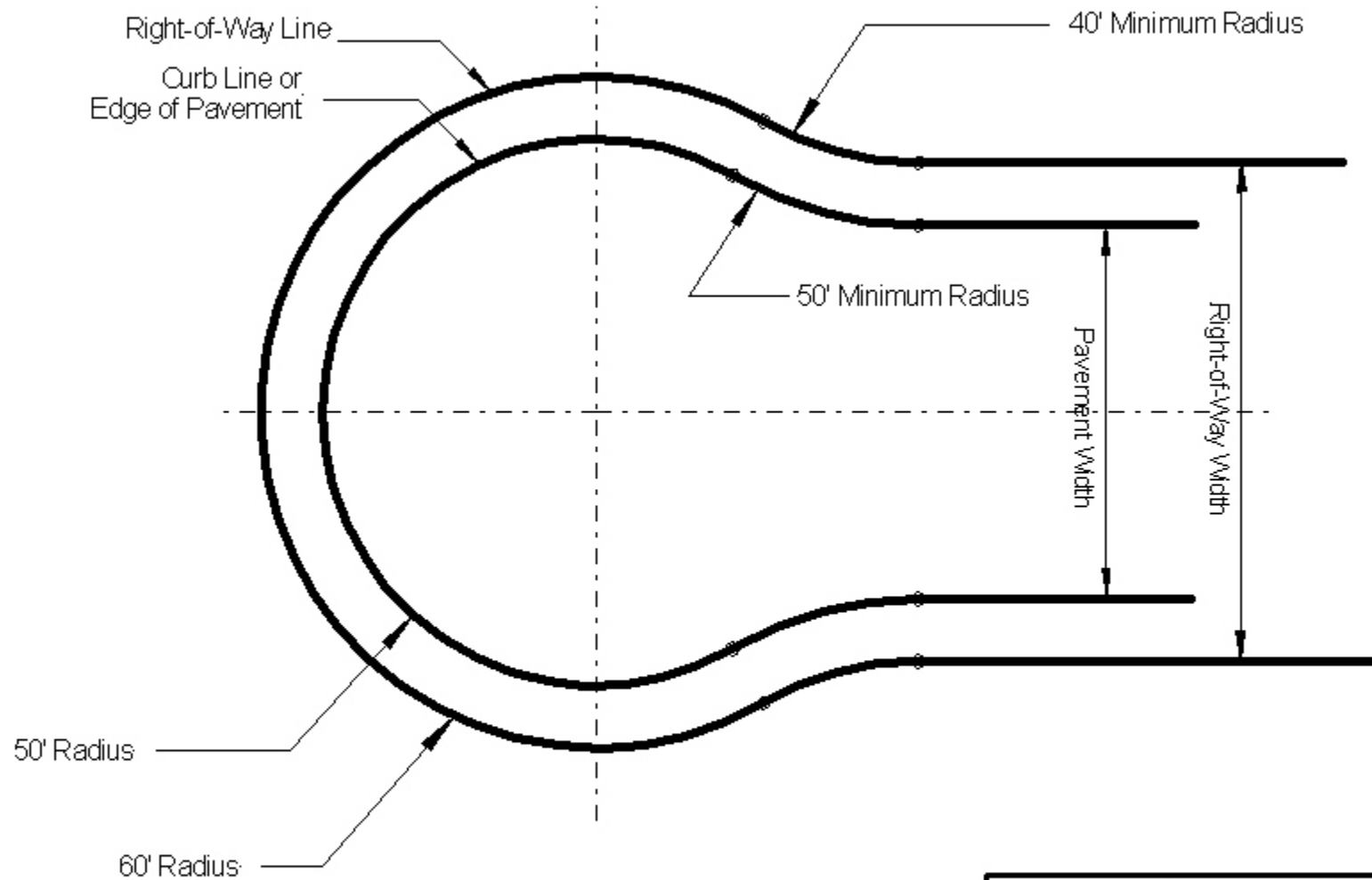
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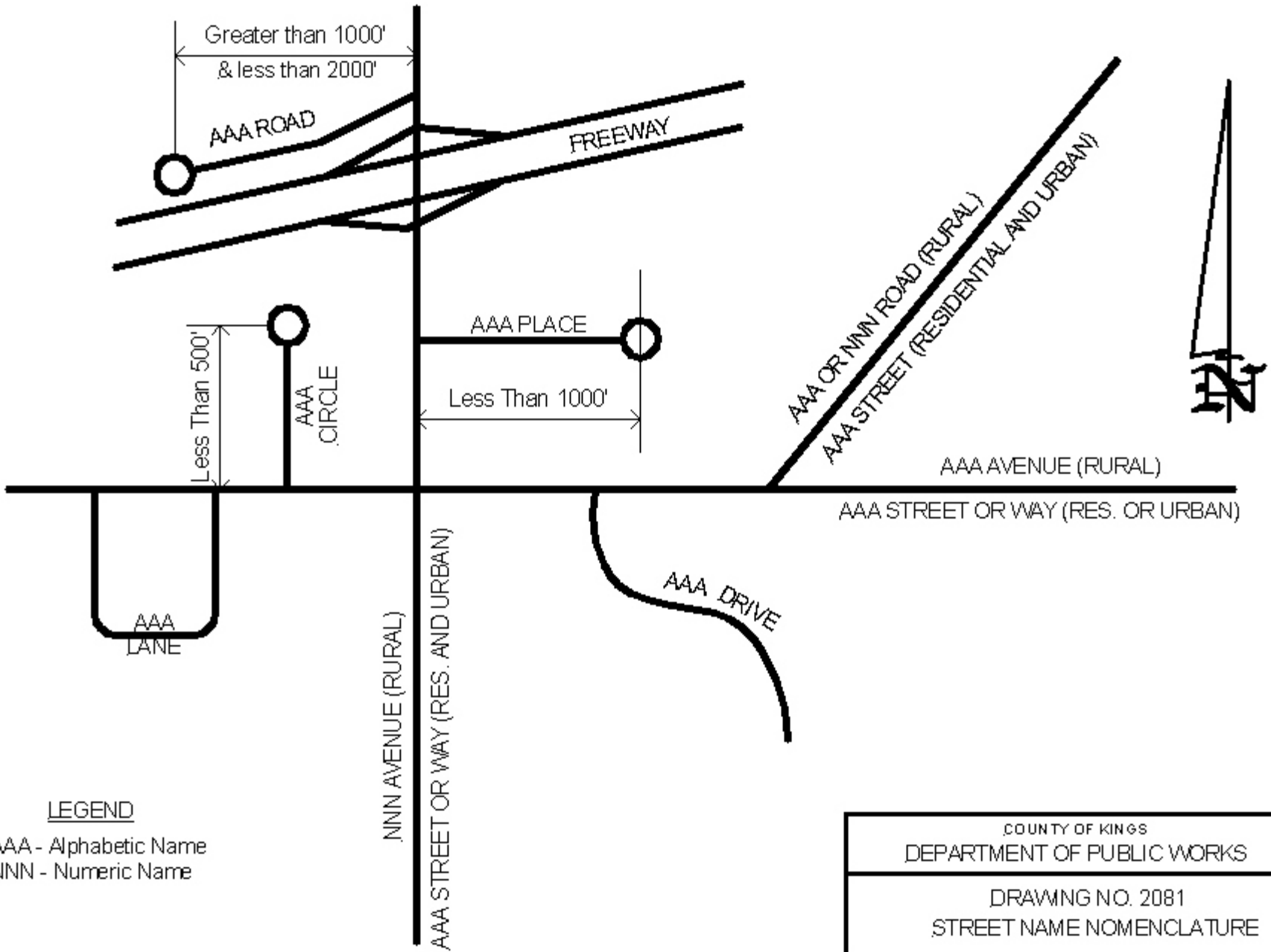
DATE: 8/6/02

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COUNTY OF KINGS		
DEPARTMENT OF PUBLIC WORKS		
DRAWING NO. 2061		
STANDARD CUL-DE-SAC		
SCALE: N.T.S.	BY:	1/1
DATE: 8/6/02	APP:	

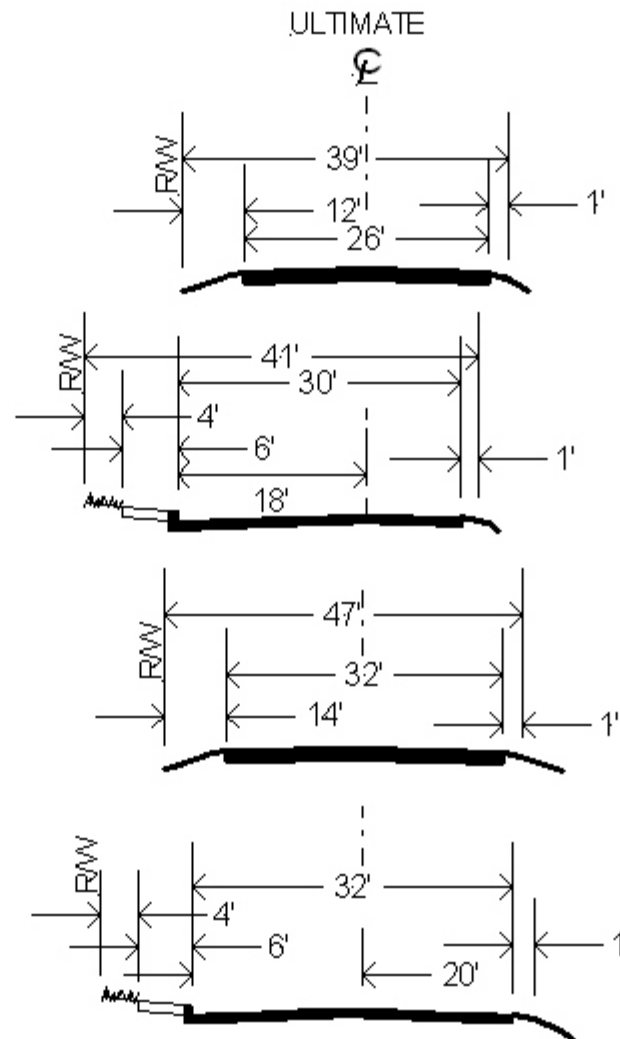


LEGEND

AAA - Alphabetic Name
NNN - Numeric Name

COUNTY OF KINGS DEPARTMENT OF PUBLIC WORKS		
DRAWING NO. 2081 STREET NAME NOMENCLATURE		
SCALE: N.T.S.	BY:	1/1
DATE: 8/6/02	APP.:	




ROAD CLASSIFICATION	DEVELOPMENT DENSITY
RESIDENTIAL MINOR	LOW
RESIDENTIAL MINOR	MEDIUM & HIGH
RESIDENTIAL COLLECTOR	LOW
RESIDENTIAL COLLECTOR	MEDIUM & HIGH

**NOTE:**

1. REFER TO DRAWING #2011 FOR ULTIMATE DEVELOPMENT

2. ALL CROSS SLOPES 2% MIN.

LEGEND

-  PAVED STREET W/ CURB & GUTTER
-  CONCRETE SIDEWALK
-  PARKWAY

COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 2091
RESIDENTIAL BOUNDARY STREETS

SCALE: N.T.S.
DATE: 8/6/02

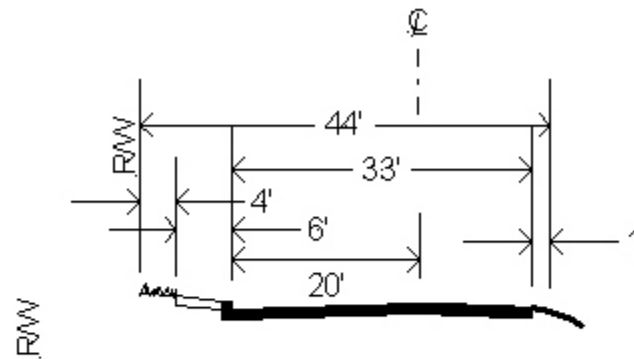
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APP.:

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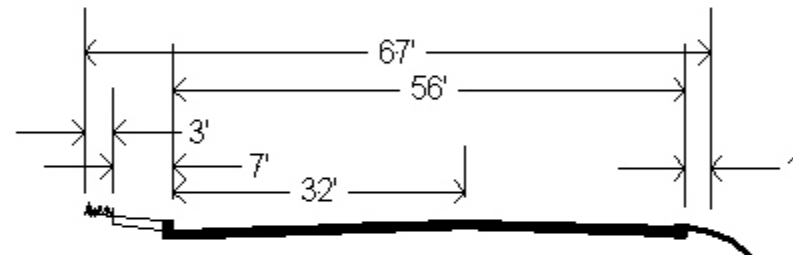
**ROAD
CLASSIFICATION**

UNDEVELOPED LAND

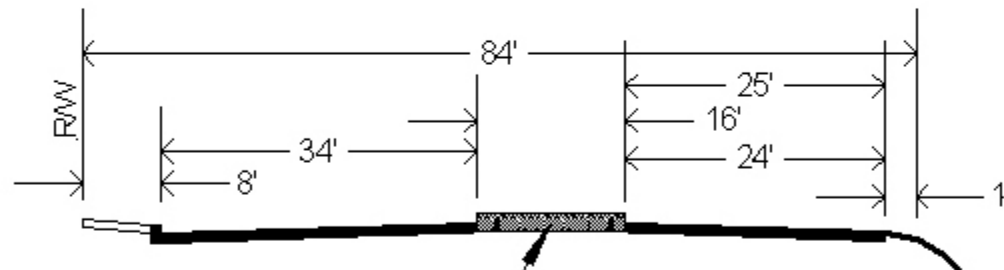
URBAN MINOR



URBAN COLLECTOR



URBAN ARTERIAL



County Approved Median Surface

NOTE:

1. SEE DRAWING NO. 2081 FOR LEGEND.
2. ALL CROSS SLOPES ARE 2% MINIMUM.

COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 2092
URBAN BOUNDARY STREETS

SCALE: N.T.S.

BY:

DATE: 8/6/02

APP.:

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ARTICLE 3---CONSTRUCTION OF STREETS AND STREET APPURTENANCES

Section 301 -- General

Unless otherwise noted, construction standards shall refer to standards in the most current edition of the "Standard Specifications" of the State of California, Department of Transportation.

Section 302 -- Road Construction

A. Construction Area Signs

Construction area signs shall be required whenever work is conducted within the road right-of-way. When traffic volumes warrant, as determined by the Public Works Director, construction area signs shall be placed in accordance with the most current edition of the "Standard Specifications" of the State of California, Department of Transportation.

B. Standards for Urban Roads and Residential Streets

These roads shall be constructed of Type "B" asphalt concrete, Class 2 aggregate base, and Class 3 aggregate subbase. Aggregate base and aggregate subbase, if any, shall be compacted to a relative compaction of 95%. In addition, the embankment or native material shall be compacted to a relative compaction of 90% to a depth of 0.5 feet below the lowest layer of base or subbase. The type of paving asphalt shall be AR-4000 unless an alternate is approved by the Director of Public Works. The aggregate shall have a "Cleanness Value" not in excess of 60 as determined by Test Method No. Calif. 227. The combined aggregate and asphalt mix finally used shall have no more than a 15 gram loss when subjected to the Surface Abrasion Test, No. Calif. 360 A. These materials are to be furnished and placed in accordance with applicable portions of the State Standard Specifications. The structural section of a road may be designed by using the methods prescribed in the California Department of Transportation Design Manual, Part 7. If this method is used, the calculations must be submitted and data must be substantiated. In

lieu of the above mentioned method, the structural section may be selected from Table 3021 opposite the "gravel equivalent" computed for the road in question. The "gravel equivalent" (GE) is computed as follows:

$$GE = 0.0032 (TI) (100-R)$$

Where the Traffic Index (TI) is selected from Table 3022 for the type of road, and where "R" value is the "resistance value" of the native material. Round the "GE" up to the nearest value shown in Table 3021. The "R" value must be substantiated by test results from an approved soils testing lab.

C. Rural Roads

The rural road construction standard shall be as recommended by the Public Works Department based on an approved engineering evaluation of existing soil conditions and expected traffic conditions.

D. Alleys

Alleys shall be constructed in accordance with the requirements for medium and high density residential streets except that the surface width shall be a minimum of twenty (20) feet. If drainage is to be routed within an alley, a Portland Cement Concrete V-gutter shall be provided for the channel, as shown in Drawing 3032.

DESIGN TABLE 3021
STRUCTURAL SECTION REQUIREMENTS

Computed GE	Thickness Asphalt Concrete	Thickness Aggregate Base	Thickness Aggregate Subbase
2.4 & Over	4"	6"	12"
2.2	3"	6"	12"
2.0	3"	4"	12"
1.8	3"	4"	10"
1.6	2 ½"	4"	10"
1.4	2 ½"	4"	8"
1.2	2 ½"	8"	None
1.0	2 ½"	5"	None

* Refer to Section 39 of the Standard Specifications, Type "B", A.C.

** Refer to Section 26 of the Standard Specifications, Class 2 Aggregate Base.

*** Refer to Section 25 of the Standard Specifications, Class 3 Aggregate Subbase.

DESIGN TABLE 3022
TRAFFIC INDEX VALUES

Road Classification	Minimum Traffic Index "TI"
Urban Arterial	8
Urban Collector	7
Urban Minor	6
Residential Collector	5
Residential Minor	4
Residential Cul-de-Sac	3

Section 303 -- Road Appurtenances

A. Curbs and Gutters

Barrier type curb and gutter and "V" type gutters, when required shall be as shown on Drawing 3031 and 3032, and shall conform to Design Table 3031. Construction - Construction shall be in accordance with Section 73 of the State Standard Specifications except that expansion joints shall be required at ends of curb returns and when joining existing structures only. Weakened plane joints at twenty (20) foot intervals shall be constructed as per State Specifications. Weakened plane joints shall also be required at the ends of drive approach flares. See Section 403-C of these standards for design requirements. Materials - Materials shall be of Class B Concrete in accordance with Section 90 of the State Standard Specifications.

B. Sidewalks

Sidewalks, when required as shown on Design Tables 2011 and 2012, shall be of Class B Portland Cement Concrete constructed in accordance with the requirements of State Standard Specifications and shall be at least 3-5/8 Inches thick and a width indicated in the above mentioned Design Tables. See Sec. 204 of these standards for design requirements.

C. Drive Approaches

Concrete drive approaches, when required, shall extend from the curb line to the property line, shall be of Class B Portland Cement Concrete and shall be a minimum of 5-1/2 Inches thick. In the absence of a curb, the apron shall extend from the street pavement to the property line and shall be of the same construction and material as the street pavement. See Sec. 205 of these standards for design requirements.

D. Street Signs

Street signs shall be of the material and design shown on Drawing 3033.

E. Equipment Crossing Pad

Equipment crossing pads may be permitted across County roads. The pad shall be constructed as shown on Drawing 3034, and encroachment permit shall be obtained prior to construction.

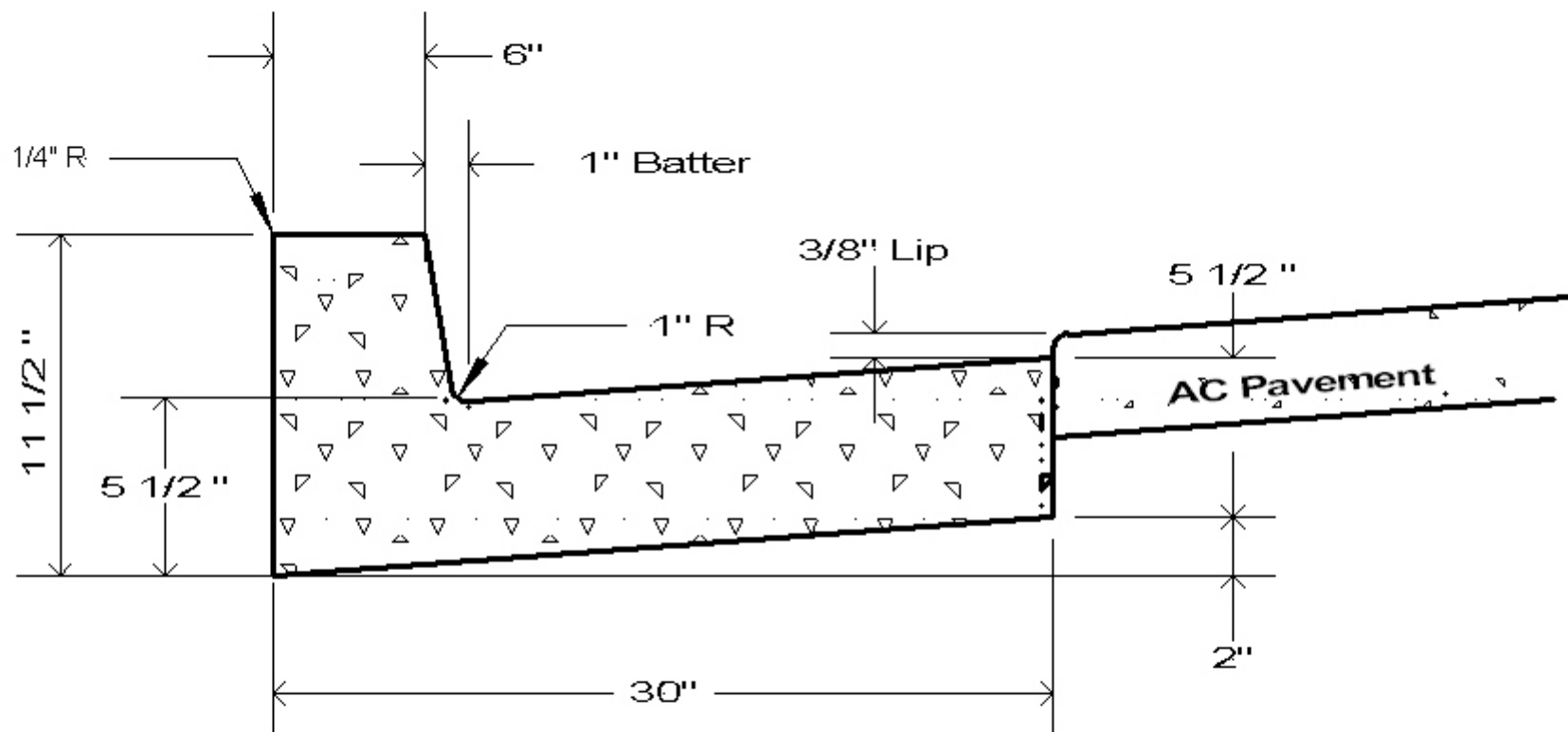
F. Wheelchair Ramps

Wheelchair ramps shall be constructed at all curb returns as shown on Drawings 3035 and 3035A.

G. Parking Lots

Parking lot geometric design shall be according to the Zoning Ordinance. Parking lots shall be designed to the minimum structural section shown on Drawing 3036. "Heavy Use" shall be considered to be in effect if the development is an Urban type.

1. Design by a registered civil engineer may be required if the soil conditions and/or loading conditions are determined by the Public Works Director to require special consideration.
2. Even in an "Heavy Use" situation, the "Light Use" or other designed alternative may be allowed if the following conditions are met:
 - a) The parking is for long duration (at least one night) or the lot is used for storage of equipment or materials, and
 - b) The usage is not heavy (infrequent), and
 - c) The alternative to AC pavement is certified by a Civil Engineer to be structurally adequate (durable) for the proposed loading, that it will be free of dust, that it will not produce 'track-out' onto adjacent paved roadways, and that a maintenance program be proposed to maintain the lot's durability and dust free condition.



CONSTRUCTION NOTES:

1. CLASS "B" CONCRETE
2. MINIMUM SLOPES:
 0.0015 - STRAIGHT SECTIONS
 0.0025 - CURB RETURNS AND
 CUL-DE-SAC CURVES

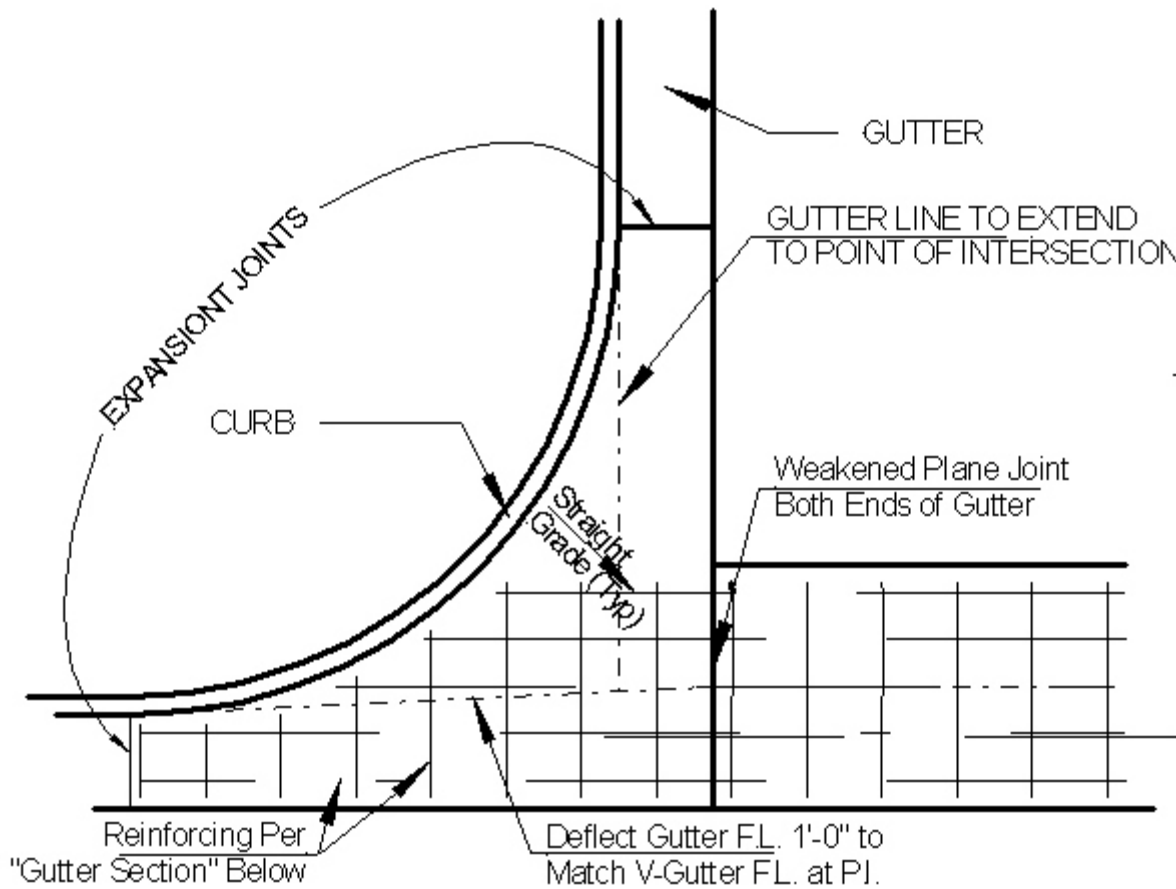
COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 3031
CURB AND GUTTER SECTION

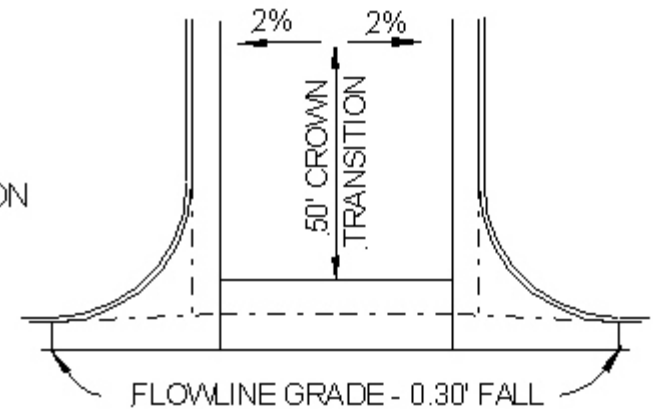
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DATE: 8/6/02

BY:
APP.:

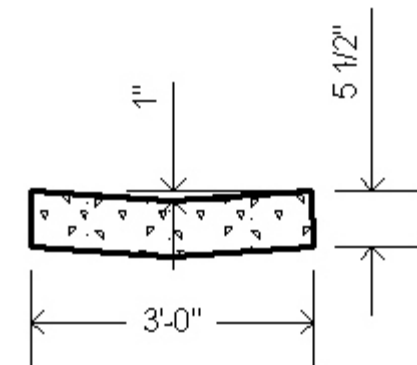
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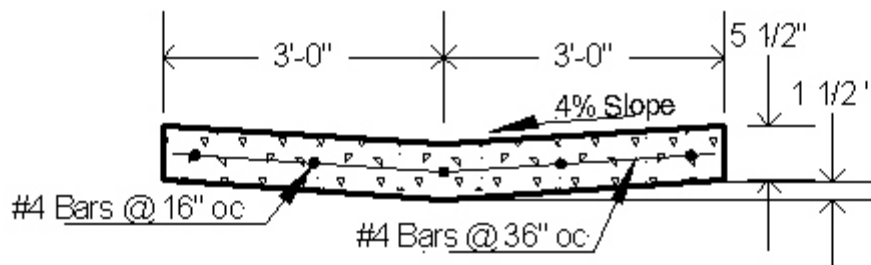
INTERSECTION "V" GUTTER



INTERSECTION TRANSITION DETAIL

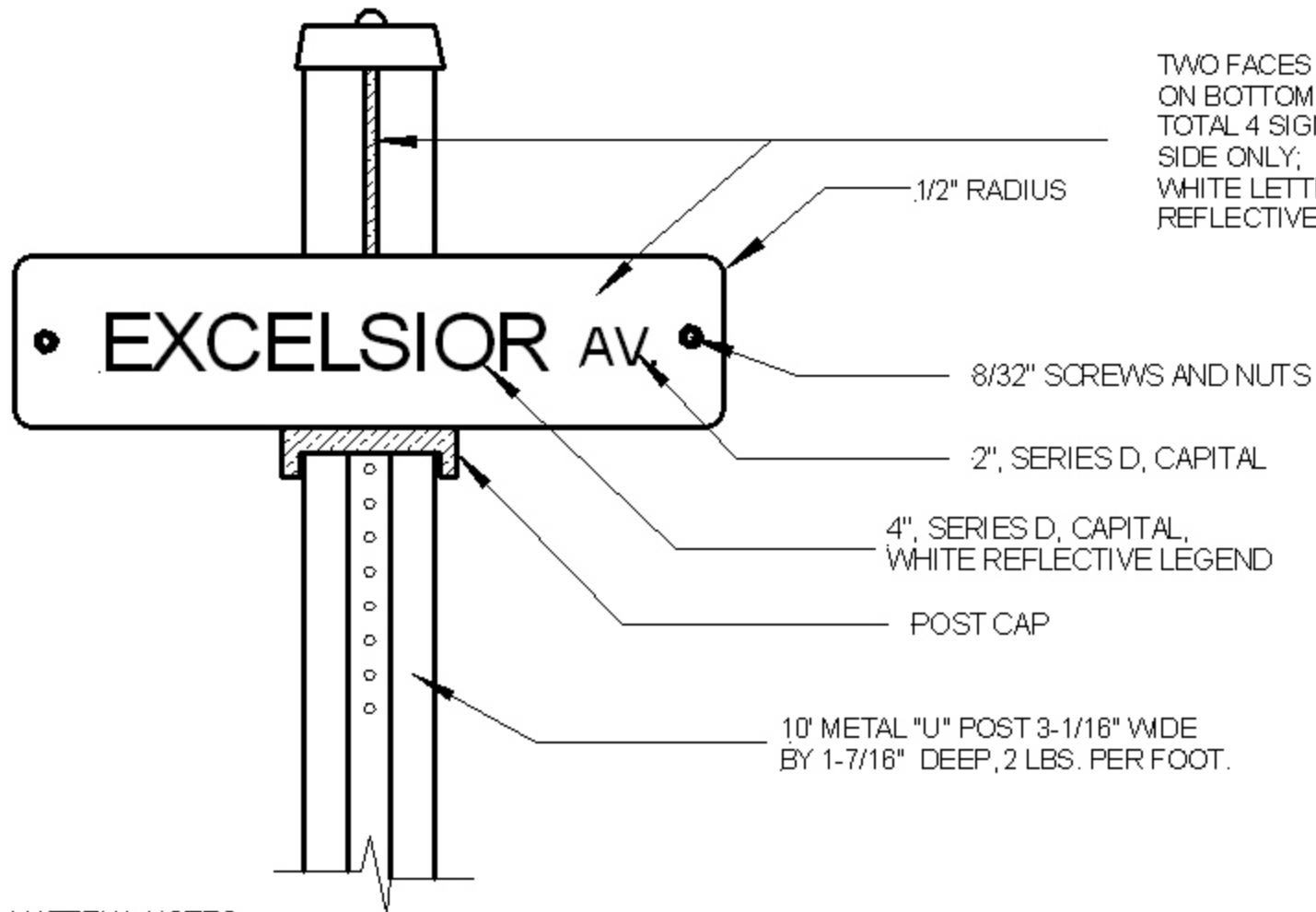


ALLEY "V" GUTTER



GUTTER SECTION

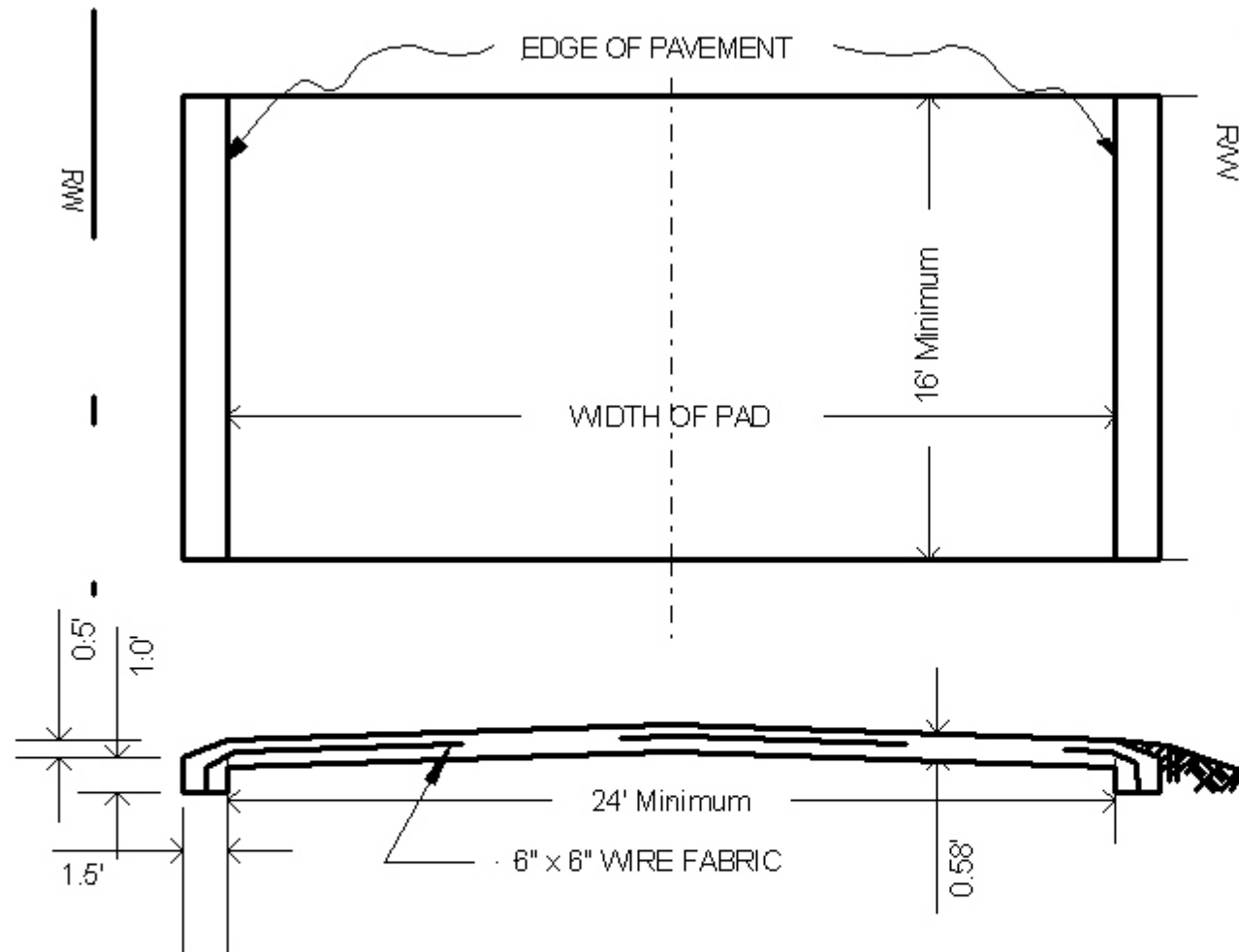
COUNTY OF KINGS DEPARTMENT OF PUBLIC WORKS		
DRAWING NO. 3032 STANDARD VALLEY GUTTER		
SCALE: N.T.S.	BY:	1/1
DATE: 8/6/02	APP:	



MATERIAL NOTES:

1. ALUMINUM SIGN BLANK; 6061-T6 OR 5155-H36; 0.036 THICK.
2. REFLECTIVE SHEETING; "3M" SCOTCHLITE, ENGINEERING GRADE OR APPROVED EQUAL.
3. METAL "U" POST MATERIAL SHALL CONFORM TO "STATE STANDARD SPECIFICATIONS".

COUNTY OF KINGS		
DEPARTMENT OF PUBLIC WORKS		
DRAWING NO. 3033		
TYPICAL STREET NAME SIGN		
SCALE: N.T.S.	BY:	1/1
DATE: 8/6/02	APP.:	



CROSSING PAD ENCROACHMENT PERMIT

THE STANDARD TERM FOR THE PERMIT IS 10 YEARS. AT THE END OF THE TERM, THE PERMITEE SHALL:

1. RENEW PERMIT AND COMPLY WITH REQUIREMENTS OF NEW PERMIT, OR
2. REMOVE CROSSING PAD AND RESTORE ROAD TO CONDITION OF ADJOINING ROAD.

NOTES:

WIDTH OF PAD SHALL BE THE WIDTH SPECIFIED ON ENCROACHMENT PERMIT ISSUED BY COUNTY.

SLOPE SHALL BE 1% MIN. CROSS SLOPE OR CROWN TO MATCH EXISTING ROAD.

REINFORCEMENT WELDED WIRE FABRIC, 6X6 - 6/8 AMERICAN CONCRETE INSTITUTE SPECS.

MAINTENANCE OF PAD DUE TO ANY DAMAGE SHALL BE BY PERMITEE.

RECONSTRUCTION OF PAD REQUIRED DUE TO ROAD CONSTRUCTION WITHIN THE PERIOD SPECIFIED BY PERMIT SHALL BE AT COUNTY EXPENSE.

COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 3034
EQUIPMENT CROSSING PAD

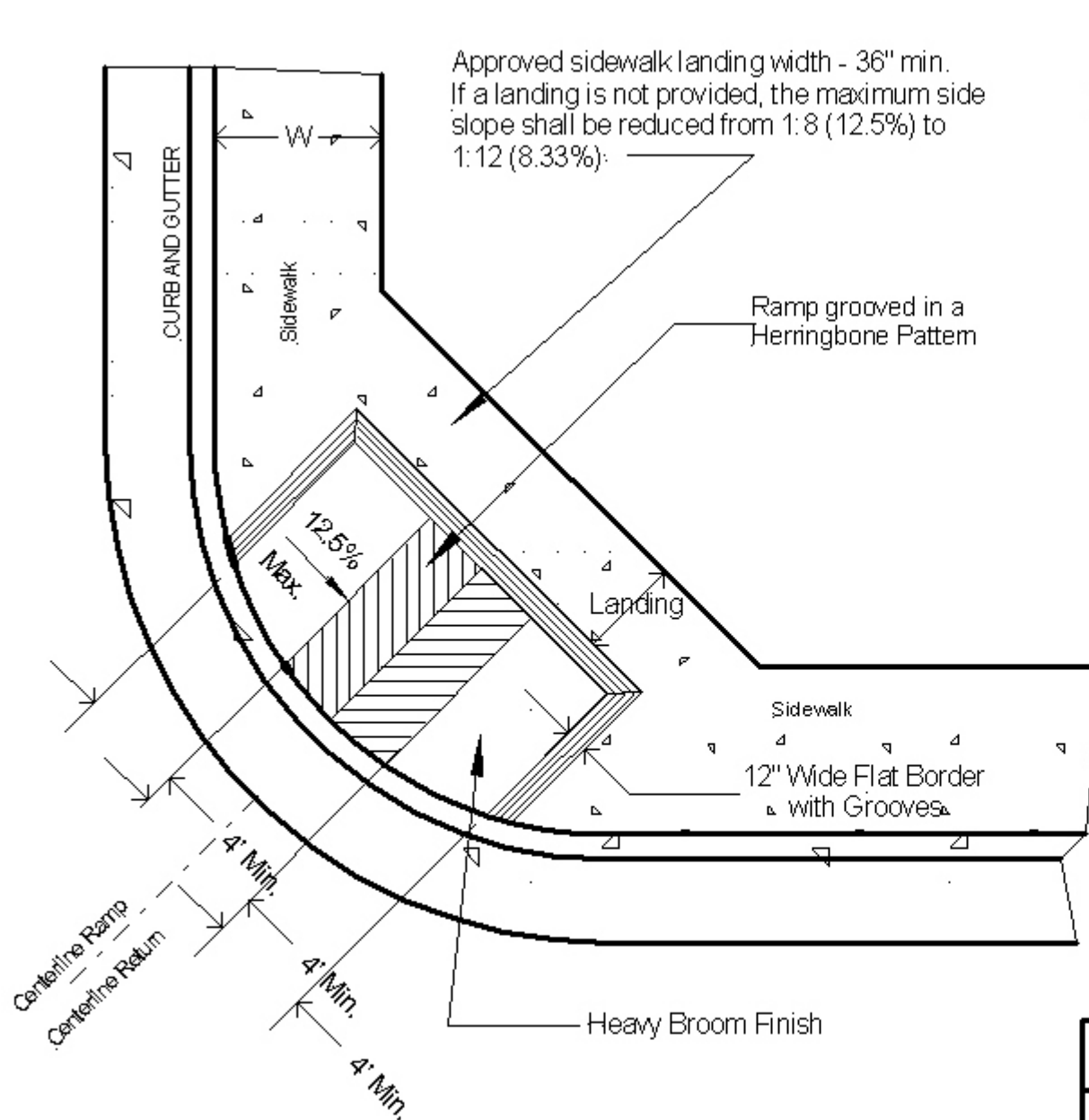
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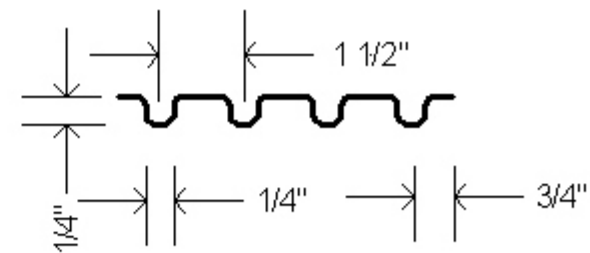
BY:

APP:

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RADIUS DETAIL



GROOVING DETAIL
No Scale

NOTES:

1. RAMP SHALL HAVE NOT ABRUPT CHANGES IN GRADE OR ANGLE OF SLOPE.
2. THE BOTTOM OF THE RAMP SHALL HAVE A LIP OF 1/2" WITH 45° BEVEL.
3. THIS STANDARD SHALL BPPLY TO ALL SUBDIVISION CONSTRUCTION AND SHALL ALSO BE REQUIRED IN OTHER DEVELOPMENTS WHERE INSTALLATION IS FEASIBLE AS DETERMINED BY THE PUBLIC WORKS DEPARTMENT.

COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 3035
STANDARD WHEELCHAIR RAMP

SCALE: N.T.S.

DATE: 8/6/02

BY:

APP:

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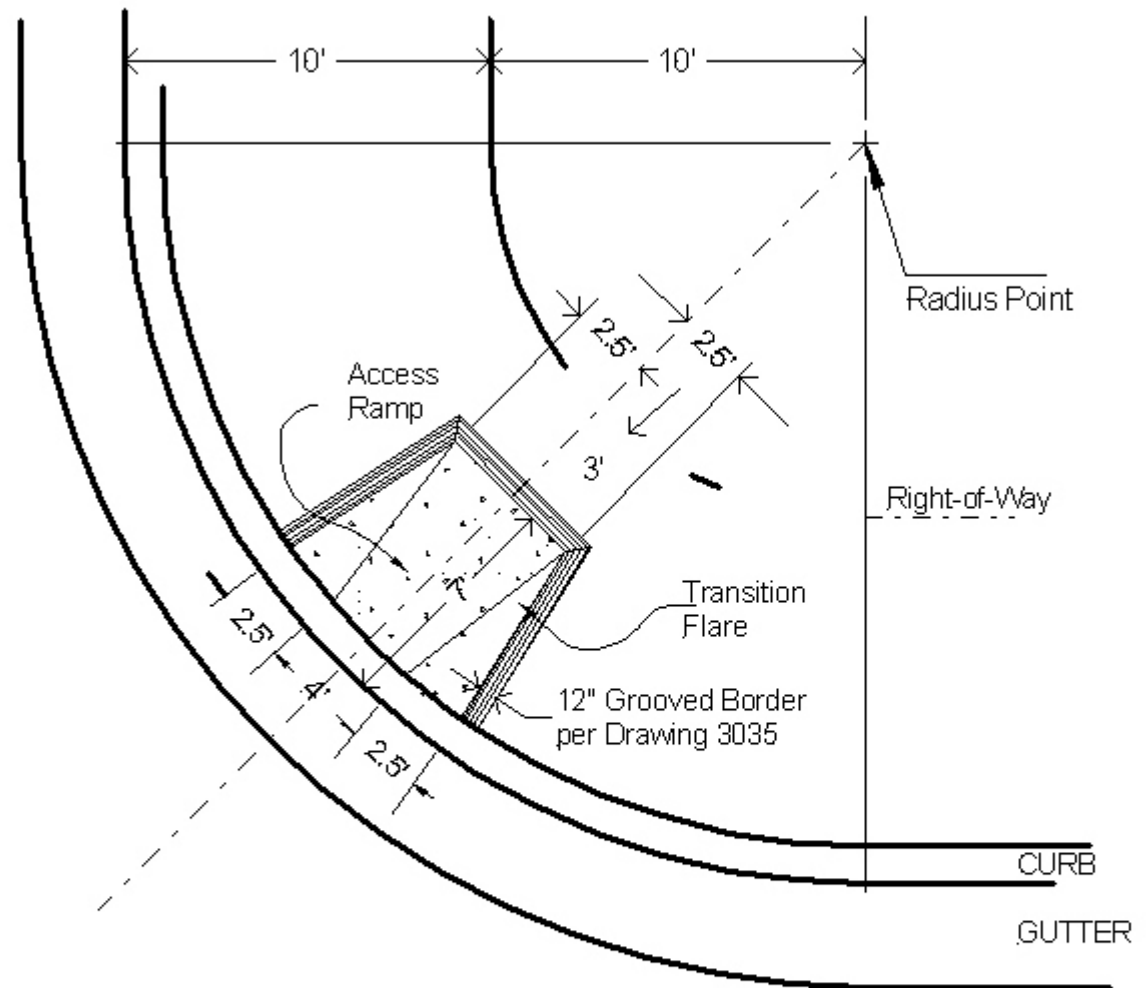
GENERAL NOTES:

1. A HALF INCH LIP AT THE GUTTER LINE WITH A TOLERANCE OF $\pm 1/8"$ SHALL BE PROVIDED. THE LIP SHALL BE BEVELED AT 45° FOR THE FULL RAMP WIDTH, EXCLUDING SIDE SLOPES.

2. SLOPE OF RAMP WIDTH SHALL NOT EXCEED 1" RISE IN 12" OF RUN. SLOPE OF RAMP SIDES SHALL NOT EXCEED 1" RISE FOR 5" RUN.

3. FINISH SHALL BE A NON-SLIP HEAVY BROOM, OR EQUIVALENT FINISH WHICH WILL PROVIDE A DISTINCTIVE CONTRASTING FINISH WITH ADJACENT WALKS AND/OR SIDEWALKS.

4. THIS STANDARD SHALL BE USED ONLY IN CASES WHERE INSTALLATION OF WHEELCHAIR RAMP PER DRAWING 3035 IS NOT FEASIBLE AS DETERMINED BY THE PUBLIC WORKS DEPARTMENT.



COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 3035-A
ALTERNATE WHEELCHAIR RAMP

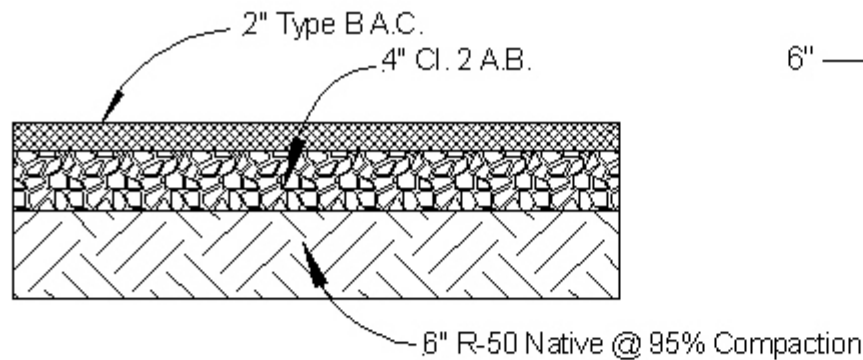
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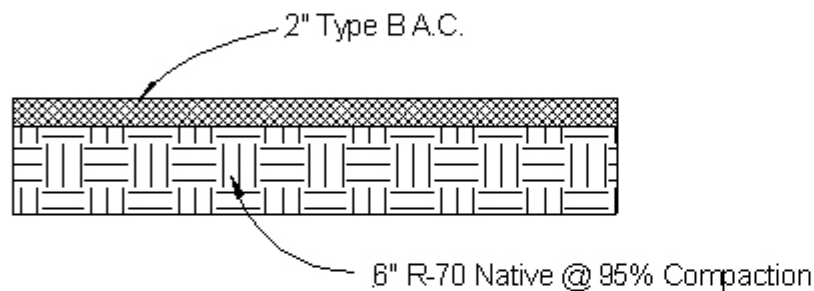
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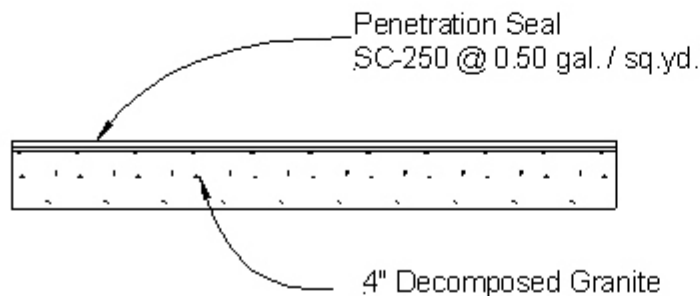
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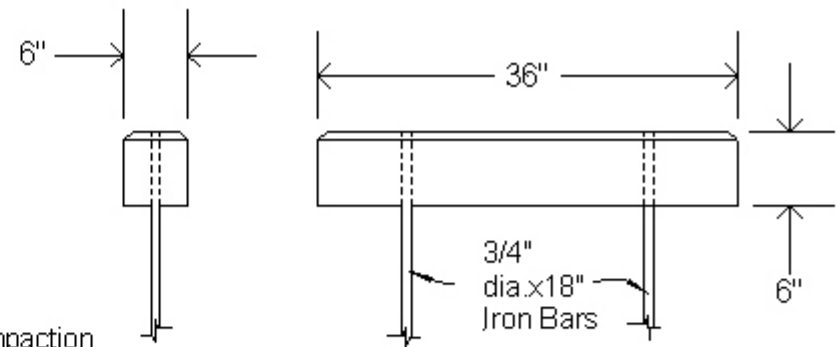
HEAVY USE CONDITONS



HEAVY USE (ALTERNATIVE DESIGN)



LIGHT USE CONDITIONS



CONCRETE WHEEL STOP

NOTES:

1. PARKING LOT SIZE, LOCATION, AND LAYOUT SHALL BE AS REQUIRED BY THE ZONING ORDINANCE.
2. CONCRETE (T=5 1/2") MAY BE USED AS AN APPROVED ALTERNATE FOR COMMERCIAL/INDUSTRIAL PARKING LOTS.
3. BASED ON THE SOIL CONDITIONS & LOADING, THE PUBLIC WORKS DIRECTOR MAY REQUIRE DESIGN BY A REGISTERED CIVIL ENGINEER

COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 3036
PARKING LOT SURFACING

SCALE: N.T.S.

BY:

DATE: 8/6/02

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ARTICLE 4 --- STORM WATER AND OTHER DRAINAGE

Section 401 -- General

Developments shall be required to design and furnish drainage systems in accordance with this Article. In addition, the following requirements shall apply as indicated.

- A. Storm Drainage Fees: Payment of storm drainage fees shall be required for all developments, except as hereinafter provided. Fees shall be required for the purpose of defraying the estimated or actual cost of constructing permanent drainage facilities for the removal of surface and storm waters from local or neighborhood areas. The actual or estimated facilities cost as stated in an approved local Area Drainage Study which applies to the land to be developed shall be used as the basis for determining the amount of the fee. It shall be the responsibility of the Public Works Department to apportion standard fees for each development according to drainage benefits conferred on the property or the need for drainage facilities generated by the development.

Developments within Drainage Study Areas are subject to storm drainage fee requirements according to the following classification:

Class A - Where the permanent retention site called for in the approved Drainage Study is available, the developer shall deposit the standard drainage fee. If permanent drainage conveyance facilities are not yet in place, the developer shall construct temporary drainage conveyance facilities to the retention site when it is by the Decision Maker that the development is within a reasonable distance of the site.

Class B - Where the permanent retention site called for in the approved Drainage Study is available but the development is located such that temporary drainage conveyance facilities would be extended an unreasonable distance, the developer may provide interim drainage retention. Interim facilities shall be developer-maintained and adequate for a 10-year 10-day storm per the stipulations of Sec. 404-C. The developer

shall enter into an agreement with the County securing the drainage fee and providing for maintenance of interim facilities.

Class C - Where the permanent retention site called for in the approved Drainage Study is not available, the Decision Maker shall determine: If the permanent site will be available within five (5) years the developer shall provide for drainage according to Class B above; or, if the permanent site will not become available within the specified time period the developer shall provide for drainage according to Provision 4 below.

Storm Drainage Fee waiver provisions shall be as follows:

Provision 1 - Where a development will provide for construction of storm drainage facilities equal to or greater than its pro rata share the fee requirement shall be waived. The developer may enter into a reimbursement agreement with the County whereby future beneficiaries of such storm drainage facilities shall be required to compensate the developer for any extra costs thus incurred.

Provision 2 - Where the storm water from a development will outfall within an existing incorporated city or community services district, the County drainage fee requirement may be waived in favor of imposition of applicable city/district drainage fees.

Provision 3 - Where a development lies within an existing improvement district for permanent drainage facilities for which assessments have been levied, the fee requirement shall be waived.

Provision 4 - Where a development lies within an unincorporated area of the County for which no approved Drainage Study exists, the fee requirement shall be waived. The developer shall provide permanent drainage facilities in conformance with Section 404-B.

- B. Storm Water: Drainage waters from storms shall be disposed of by one of the systems described in Section 404. The quantity of storm water shall be determined from Section 402, and the system shall be provided in accordance with Section 403. In addition, the proposed drainage system shall not be detrimental to the public health as determined by the Decision Maker.

- C. Non-Storm Water: Drainage waters from other than storms shall be contained on the development site (off street) in accordance with Section 404-C. The Decision Maker may, however, allow disposal of non-storm water into the storm drainage system only if the following conditions exist:
1. The Health Department determines that there will be no hazard to health.
 2. The Public Works Department determines that the system is designed for the extra water.
 3. The development is Urban and the non-storm water is not a normal, planned part of the proposed operation (such as a car wash)

Section 402 -- Hydrologic Design

Drainage systems shall be designed in accordance with the following frequencies:

- A. Major Drain Systems Major drain systems are defined as those with a tributary area in excess of four (4) square miles. Such major drain systems shall be designed for an average recurrence Interval of one hundred (100) years.
- B. Secondary Drain Systems - Secondary drain systems are defined as those with a tributary area of between one (1) and four (4) square miles. Such secondary drain systems shall be designed for an average recurrence interval of twenty-five (25) years.
- C. Minor Drain Systems - Minor drain systems are defined as those with one square mile or less of tributary area. Such minor drain systems shall be designed for an average recurrence interval of two years. Design quantities of flow for Major and Secondary Drain Systems will be provided to the County by the developer. Design flows for minor drainage facilities shall be computed by the developer's engineer by use of the Rational Formula:

$$Q = C i A$$

Wherein: Q = Cubic feet per second
 C = runoff coefficient
 i = intensity of rainfall, inches per hour
 A = tributary area, acres

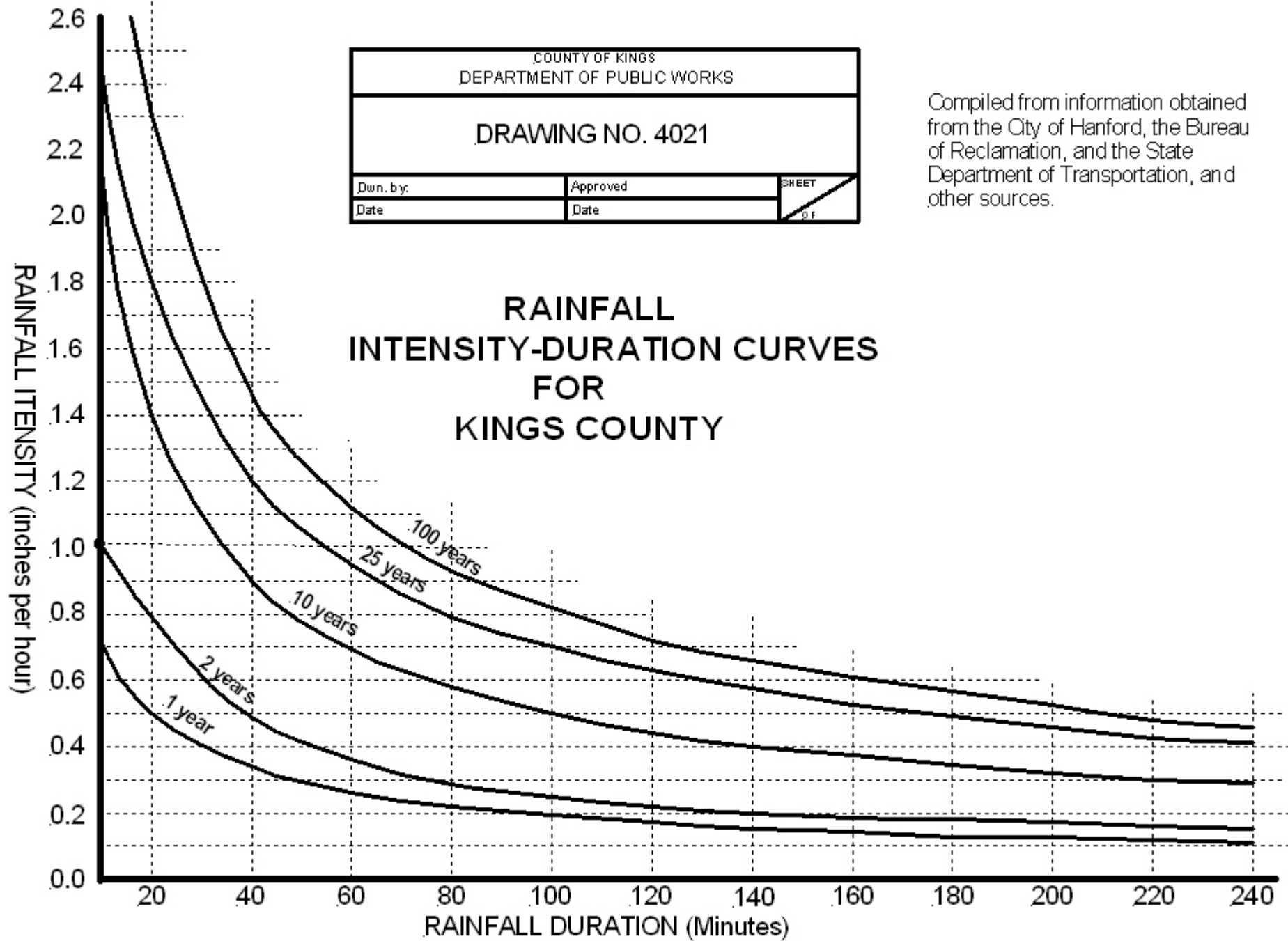
The calculations shall be submitted to the Public Works Department for review. The values of "C" and "i" shall be obtained from Design Table 4021 and Drawing 4021 respectively. Minimum values of "C" are shown for various types of land use. Deviations from these values may be approved by the Director of Public Works if substantiating data is submitted and indicates that change is reasonable.

DESIGN TABLE 4021
VALUES OF RUNOFF COEFFICIENTS

Zoning Classification	Type of Development	Runoff Coefficient "C"*
A, NRC	Agricultural, Natural Resources and Conservation	0.15
RA, RRE, R1-20	Rural Residential and Single Residential with lot size of 12,000 square feet.	0.25
R1-6, R1-8, R-12	Single family residential with lot size minimum of 6,000 square feet.	0.35
RM-3	Multi-family residential with site area minimum of 3,000 square feet.	0.55
RM-1.5, RM-2	Multi-family residential, over 59% coverage by structures.	0.65
PO	Professional Office sites	0.75
CN	Neighborhood commercial sites	0.80
CC	Central commercial sites	0.85
ML, MH	Light and Heavy industrial sites	*

* Weighted "C" to be based upon approved site plan.

NOTE: Other runoff coefficients may be approved/required by the Public Works Department when probable runoffs are inconsistent with the above chart.



Section 403 -- Hydraulic Design

The hydraulic design of the development, shall be such that, after accumulating all energy losses through the various drainage transmission systems within the development., depth of flow in the streets shall not exceed top of curb height for two year average recurrence intervals and for more remote events depth of flow or ponding shall not exceed a level which would cause inundation of foundations or basements in building constructed within the development. Within the development, catch basins and pipelines shall be designed such that water will not exceed top of curb height for a two-year average recurrence interval, and such that any water ponding in the street will drain within three (3) hours. Site grading within the development shall be such that all lots will readily drain into the storm drain system.

- A. Closed Conduits - Except for adequate natural waterways, and except for allowable gutter flows, all storm drainage within the subdivision which is capable of being transmitted in a pipe forty-two (42) inches or less in diameter, shall be carried in a closed conduit. Minimum conduit size shall be twelve (12) inches. Minimum clearance between top of pipe and ground shall be thirty (30) inches unless an alternate design is approved by the Public Works Director. The alignment of closed conduits shall be as nearly straight as practicable without bends and undue angle points; manholes shall be provided at all angle points and at intervals not to exceed six hundred (600) feet along the conduit. Pipelines outside the right-of-way shall be of sufficient strength to withstand expected loading. Pipelines shall be designed such that a cleaning velocity of at least 2 1/2 feet per second will be attained on the average of once every two (2) years, computed with no head. Within the road right- of-way, the type of pipeline used shall conform to the requirements of Design Table 4031 and Standard Drawing 4031. An alternative type line may be used if determined to be of equal or better quality by the Director of Public Works. If aluminum pipe is proposed soil tests must be done and data must be submitted to the Director of Public Works
- B. Open Channels - Open channels shall be designed so that design flow does not cause scour or erosion along channel. The open channel shall, be fenced in accordance with the requirements of Section 701 for Hazard Control Fencing.

- C. Gutters - All gutters shall have a minimum slope of 0.0015. The maximum distance that water may run in the gutter between inlets shall be 1320 feet.
- D. Pump Stations - Pump stations shall be of submersible type, preferably providing two (2) pumps whose combined capacity equals the design flow. Two (2) pumps will be required when the power requirements for pumping exceed four (4) horsepower. The pump station sump shall have a minimum volume, in gallons, between pump "ON" and pump "OFF" positions, of three (3) times the maximum pump output in gallons per/minute. Two pump installations shall have a pump alternator to alternate first pump on.

The complete proposed design of the pump station shall be incorporated in the proposed Improvement plans and shall be subject to review and approval by the Kings County Director of Public Works.

A vertical trash grate shall be installed in each sump. Said grate shall have openings not to exceed two inches in width with at least 50% openings and the only horizontal members shall be at the top and bottom of the grate. The minimum gross area of the grate shall be 30 square feet, and it shall extend the full height and width of the sump.

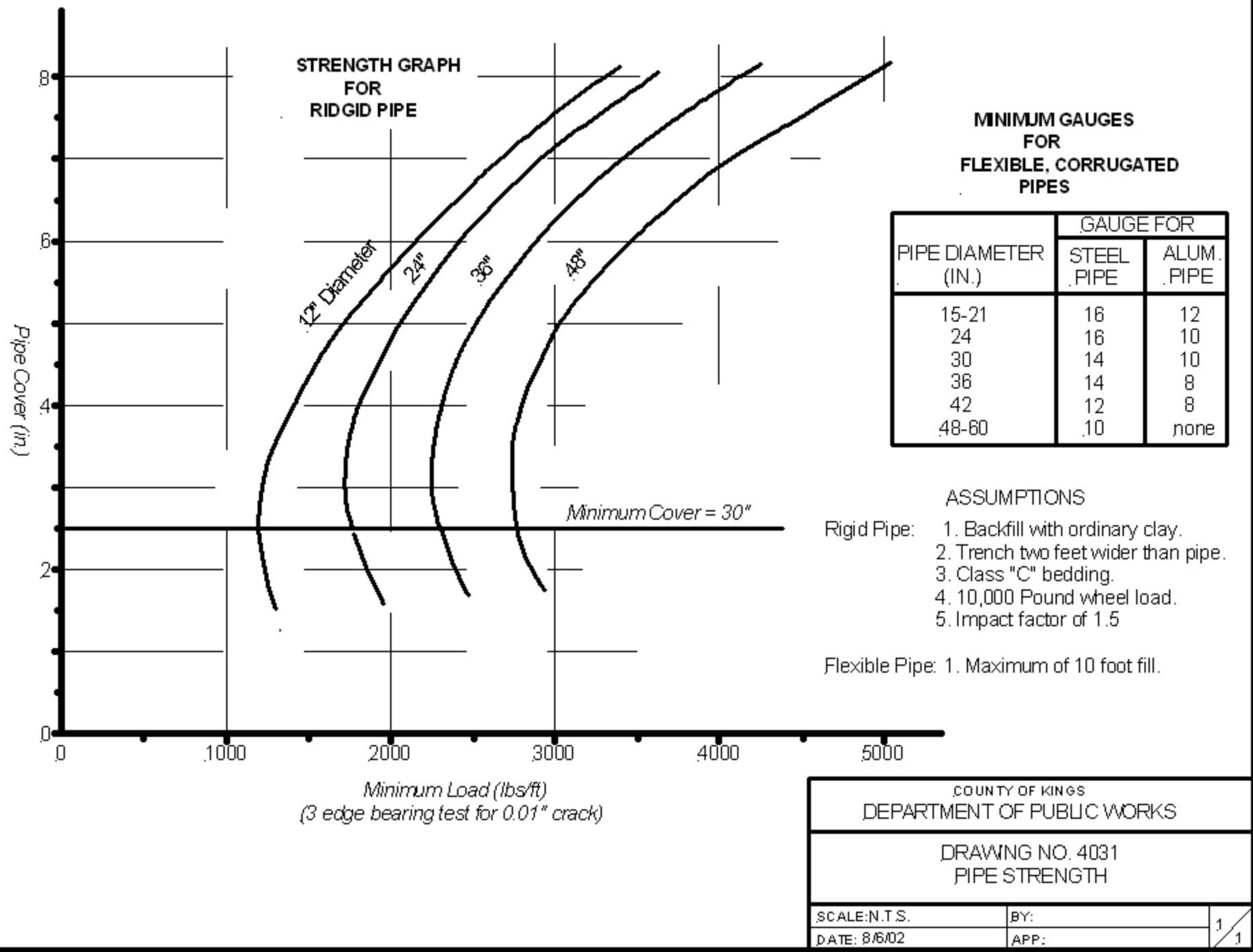
Each pump station shall be equipped with an automatic liquid level control device. The pump controls shall include a combination magnetic switch with circuit breakers, in a single outdoor enclosure for wall surface mounting. The pump control switch shall have three positions allowing for OFF, MANUAL, AND AUTOMATIC settings. All electrical control buttons and/or levers shall be placed behind a cover, which can be locked with a padlock.

Pumps shall be centrifugal, with no clog impellers. Said pump shall be capable of passing a three inch sphere. The motor shall not exceed 1170 RPM. The pump shall be designed such that the pump cannot load the motor beyond a service factor of 1.0 for all combinations of capacities and heads.

DESIGN TABLE 4031
PIPELINE AND CULVERT REQUIREMENTS

PIPE APPLICATION	ALLOWABLE MINIMUM REQUIREMENTS (without engineering)
Non pressure (open channel) flows, where head is less than two (2) feet above top of pipe	Corrugated metal pipe or spiral rib metal pipe, with bituminous coating conforming to AASHTO designation M36, aluminum pipe shall conform to AASHTO designation M196. b) Concrete mortar joint pipe conforming to ASTM C118 Extra Strength. Not allowed under Select (Major) county, roads or on roads with traffic volumes greater than 25 vehicles per day. c) Corrugated polyethylene pipe conforming to AASHTO designation M-252 or M-294. Materials shall conform to ASTM designation D-1248.
Pressure pipe to heads up to fifty (50) feet.	a) Concrete pipe conforming to ASTM C-76 Class IV under any road with height of fill not over 6 feet, or pipe conforming to ASTM C-14, Extra Strength on non-Select (Minor) county roads with height of fill not over 6 feet. Rubber gasket joints required, conforming to ASTM C-443. b) Plastic pipe shall have a maximum diameter to thickness ratio of 35 and a maximum cover of 6 ft. Backfill must be with sandy material. c) Asbestos cement pipe, corrugated & spiral rib metal pipe, and flexible pipe shall be capable of withstanding vertical loads shown on Design Drawing 4031, and capable of pressures up to a head of 50 feet, as approved by the Director of Public Works.

1. Culvert pipe designated herein may be used without approved engineering design, however, if conditions exist which are not provided for in this Table, then approval must be given by the Public Works Director.
2. These requirements apply to pipe crossings only. Installations along the road (greater than 200 feet) shall require special permit by the Board of Supervisors.
3. Aluminum may be used only when the applicant or developer provides data showing that the soil at the site has a pH range between 4 and 8 and a resistivity greater than 200 ohm-centimeters.
4. All lines 18" or less in diameter shall be bored under major, permanently paved roads. Said boring shall follow standard procedures and must have prior approval by Kings County Public Works.



Section 404 -- Types of Drainage Systems

A. Disposal of Storm Waters into an Existing Drainage System, into an Existing Irrigation Canal, or into a Natural Slough

None of these disposal methods may be used unless the developer obtains written agreement, for disposal, from the owner. The design engineer representing the subdivider shall evaluate and certify as to the adequacy of the disposal system.

B. Disposal of Storm Waters

This method of disposal is considered less desirable than the method described in "A" above. If this means of disposal is used, the design criteria for a basin shall be as follows:

Volume - The basin shall contain a volume equal to "0.5CA" acre feet, where "C" and "A" are defined in Section 402 of these Standards. (Capacity for 100-year 10-day storm = 6" rainfall.) For purposes of calculating volume, it shall be assumed that "C" = 0 within the basin area itself. There shall be a one (1) foot freeboard below the lowest gutter elevation.

Basin Area - 1/2 acres minimum (gross area).

Depth - The greatest depth water shall be is one (1) foot for each 10,000 square feet of contributory area. The maximum depth shall be 18 inches when basin is used as a recreation field. The basin floor shall be graded to drain (@ 0.5% min.) to create a sump for low flow conditions to minimize ponding area.

Access - Access shall be provided from a public street to the basin and ramp slope shall provide for the entry of small tractors to the bed of the basin.

Hazard Control - The basin shall be fenced in accordance to the requirements of Section 701 except where percolation basins are used as recreation fields (18" maximum depth).

Side Slopes - The slope of the basin walls shall be 3:1 or flatter. The use of percolation basins as sports fields, parks and other recreational areas is encouraged.

C. Disposal of Drainage Waters by Containing on Private Site

* S.C.S. Technical Paper No.49

1. Private Basin - The design criteria for a privately - maintained basin shall be as follows:

Volume - The basin itself may be sized to accept the runoff from a 10-year 10-day storm (4" rainfall*) if the onsite drainage design is adequate to prevent significant property damage in conditions resulting from a 100-year 10-day storm. (6" rainfall*). The basin volume shall be calculated according to "0.33 CA" where "C" and "A" are defined in Section 402 of these Standards. For purposes of calculating volume, it shall be assumed that "C" = 0 within the basin area itself.

Basin Location - Basins shall be, located on site such that all tops of slopes are set back from structures and property lines in conformance to the most current Uniform Building Code adopted by the County.

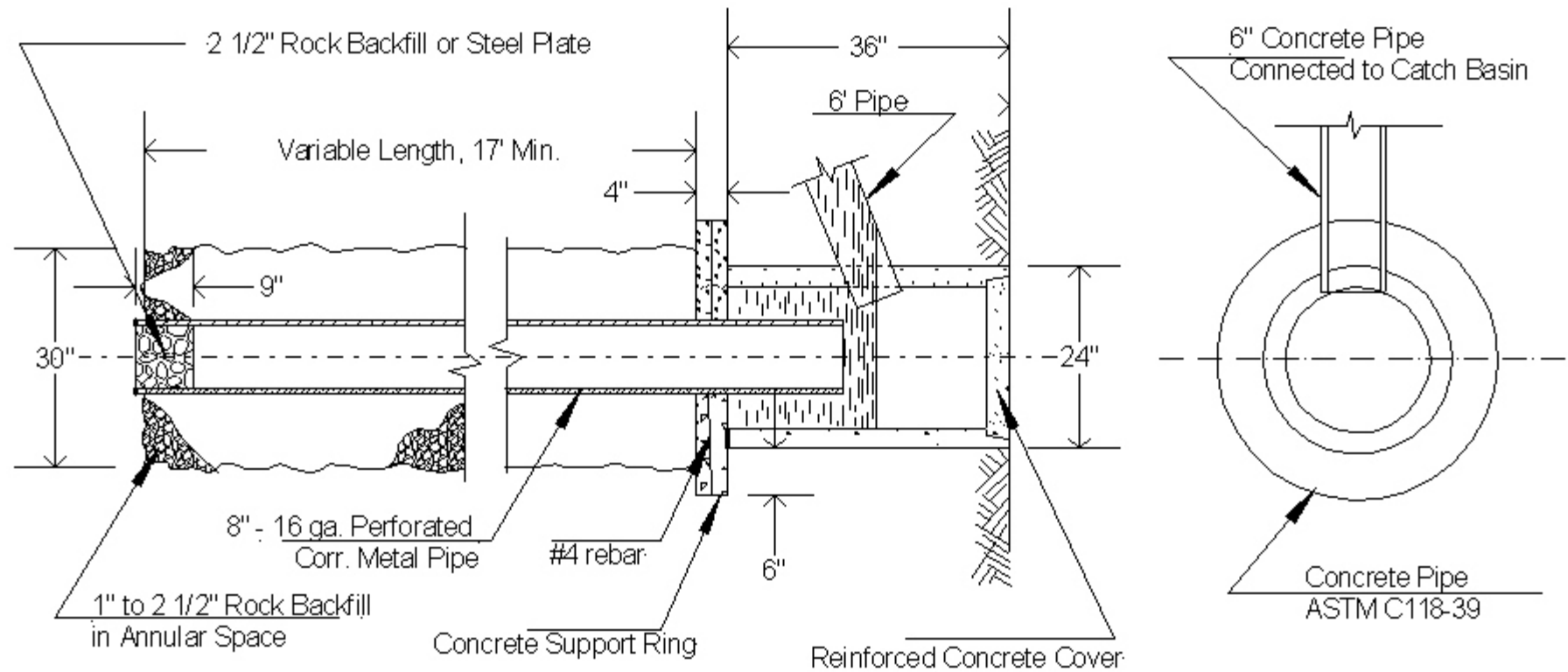
2. Private Sump - Storm and drainage water in developments may be contained within in sump area. Native soil drainage tests (United States Department of Health, Education, and Welfare "Manual of Septic Tank Practice") shall indicate that water runoff can be contained without creating a nuisance, and that the water will percolate within four (4) days. In addition, the area to contain water shall 1) be set back from property lines a minimum distance of ten (10) feet and along roads and/or sidewalks shall be separated by means of a barrier such as a rail fence or landscaping, 2) be of a size such that the water level shall not exceed one foot in depth. In low density residential developments proposed without curbs and gutters, the streets shall have a centerline grade at least one and one-quarter foot (1-1/4) above the average terrain grade of adjacent lots prior to development, and a setback of at least 60 feet from right-of-way shall be provided per Drawing. 4042.

D. Disposal of Storm Water by Means of Dry Wells

This method is not acceptable to Public Works for subdivision development and will require express consent of the Board of Supervisors. If this method is approved by the Board of Supervisors, the Dry Well shall be constructed in accordance with the requirements as shown on Drawing 4041. One well shall be provided for each one (1) acre of residential development and one (1) well for each one-half (1/2) acre of commercial or industrial development (if largely waterproofed.)

E. Disposal of Storm Waters by Means of Holding Basin and Pumping

A holding basin shall not exceed seven (7) feet, in depth and shall be so designed that a 10-year 2-day rainfall (2.4") over the contributing area shall be contained with a one (1) foot freeboard below the lowest gutter elevation or drop inlet grade elevation. A pump and pipeline system shall be constructed with sufficient capacity to remove the above described peak water volume in no more than two (2) days.



NOTES:

1. LOG OF TEST BORING IS REQUIRED FOR COUNTY REVIEW BEFORE WELL MAY BE CONSTRUCTED.
2. 18" MIN. DIMENSION FROM OUTSIDE WALL C.B. TO OUTSIDE WALL OF DRY WELL.
3. WELL SHALL EXTEND TO ENCOUNTER A MINIMUM OF 10 FEET OF MEDIUM SAND.
4. WELL SUBJECT TO WHEEL LOAD SHALL HAVE SPECIAL DESIGN SUBJECT TO COUNTY REVIEW AND APPROVAL.

COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 4041
STANDARD DRYWELL

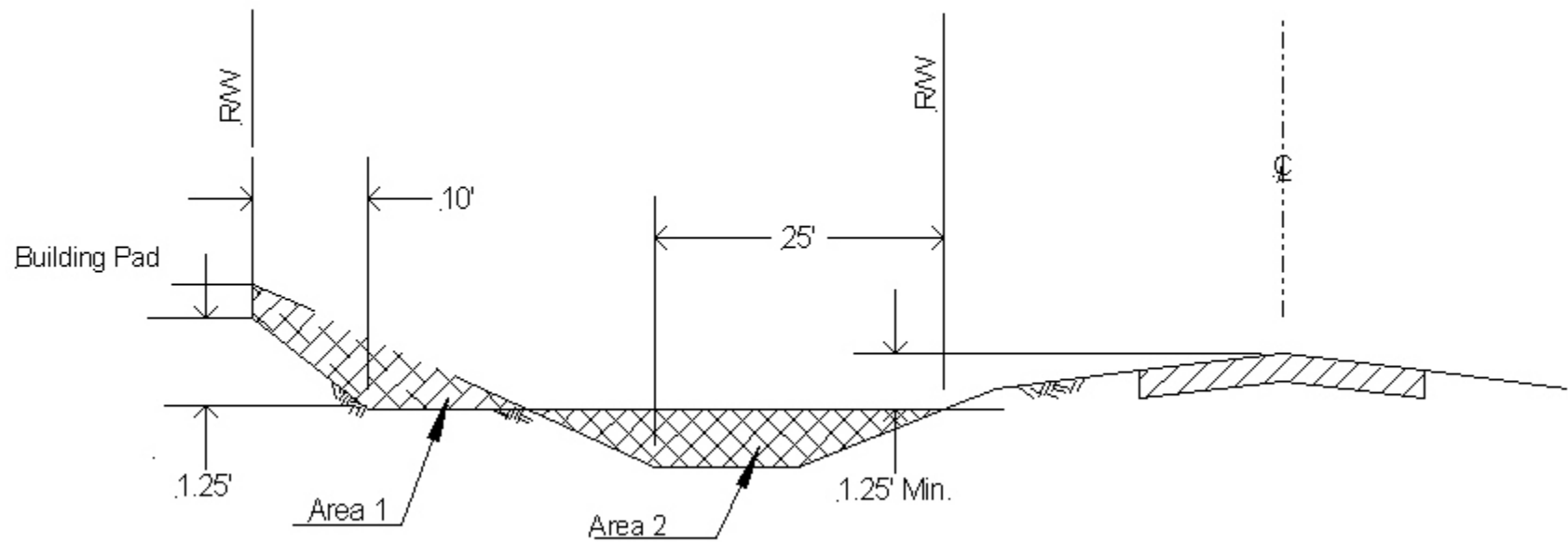
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LEGEND

- PREFERRED LOT GRADE
- APPROVED ALTERNATE GRADE

NOTE:

AREAS 1 AND 2 SHOWN BETWEEN THE TWO GRADING PLANES SHALL BE EQUAL.

COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 4042
ON-SITE DRAINAGE STANDARD

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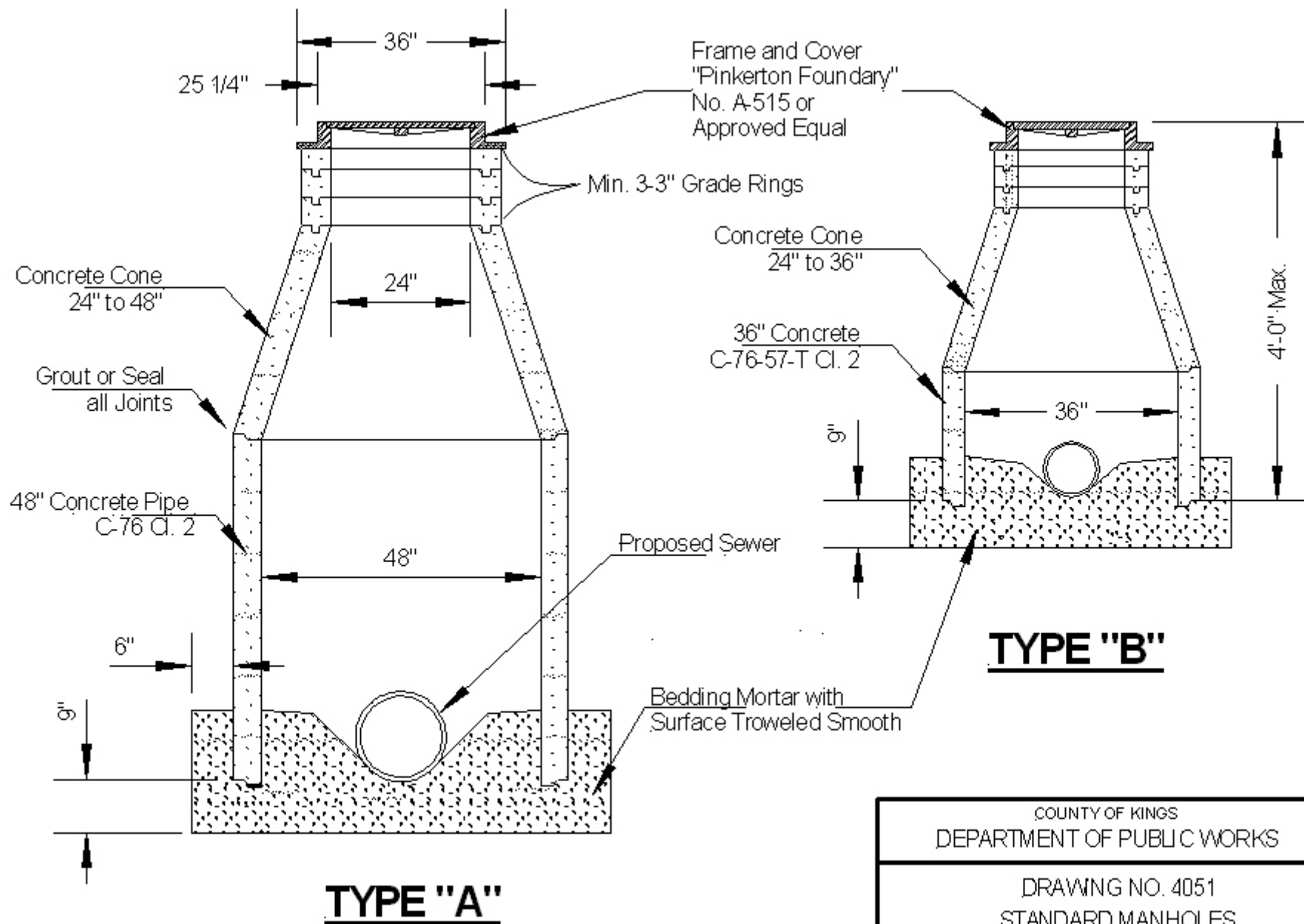
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Section 405 -- Drainage Construction Requirements

- A. General - The quality of material and construction for the various drainage improvements covered in this section shall conform to applicable portions of State Standard Specifications, and the following requirements:
- B. Pipelines - Pipelines shall be backfilled as described in Section 19, of the State Standard Specifications. Pipelines shall have a minimum cover of thirty (30) inches. The surface on which the pipeline is laid shall be firm and true to grade.
- C. Manholes - Manholes shall be constructed as shown on Drawing 4051. Concrete used at the base of the manholes shall be a six (6) sack, Class A concrete, as designated in the State Standard Specifications.
- D. Catch Basins - The size of grate and curb opening shall be of sufficient size to accommodate the calculated flow of drainage water. Side inlet and drop inlet catch basins shall be constructed as shown on Drawing 4052 and Drawing 4053 respectively. Engineering calculations shall be furnished for any inlet with a grate less than 16 inches in width and 24 inches in length. Concrete used in these installations shall be five (5) sack, Class 8 concrete as defined in the State Standard Specifications.
- E. Pump Station - The pump station should be built in a manner similar to that sketched on Drawing 4054. If proposed construction deviates from that shown on Drawing 4054, prior approval must be obtained from the Public Works Director. All concrete used must be six (6) sack, Class A concrete defined in the State Standard Specifications.



COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 4051
STANDARD MANHOLES

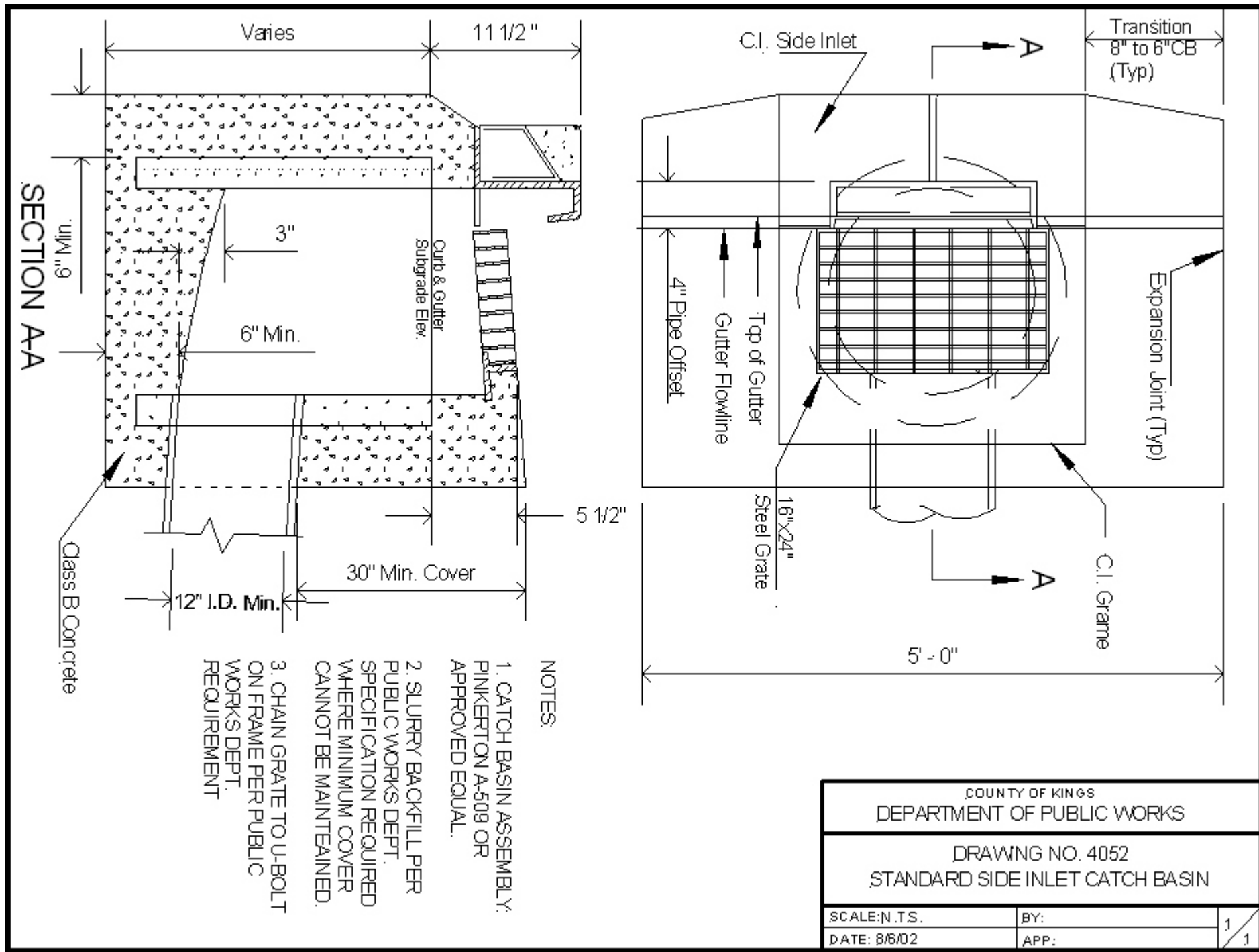
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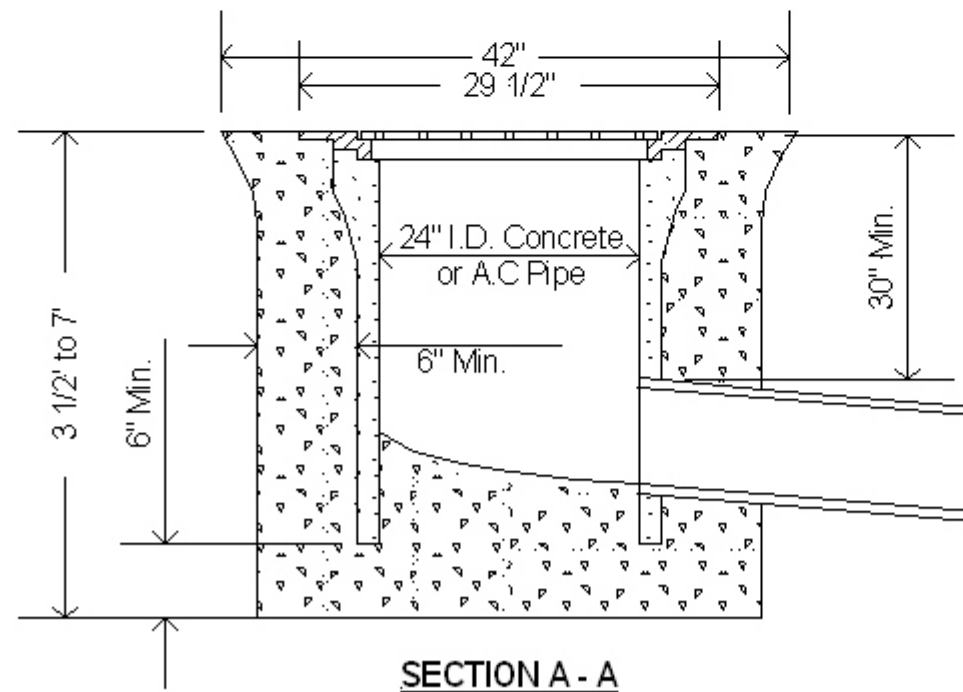
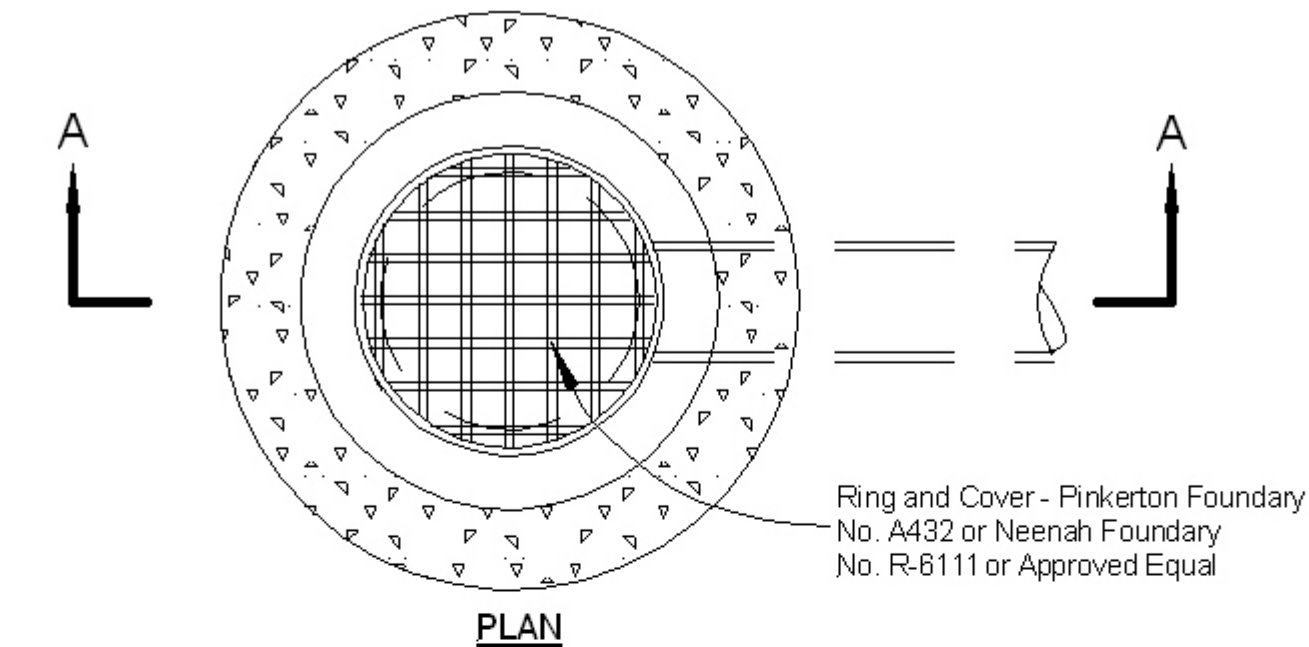
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NOTES:

1. SLURRY BACKFILL PER PUBLIC WORKS DEPARTMENT SPECIFICATION REQUIRED WHERE MINIMUM COVER CANNOT BE MAINTAINED.

2. CHAIN GRATE TO FRAME AS REQUIRED BY PUBLIC WORKS DEPARTMENT.

COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 4053
STANDARD DROP INLET CATCH BASIN

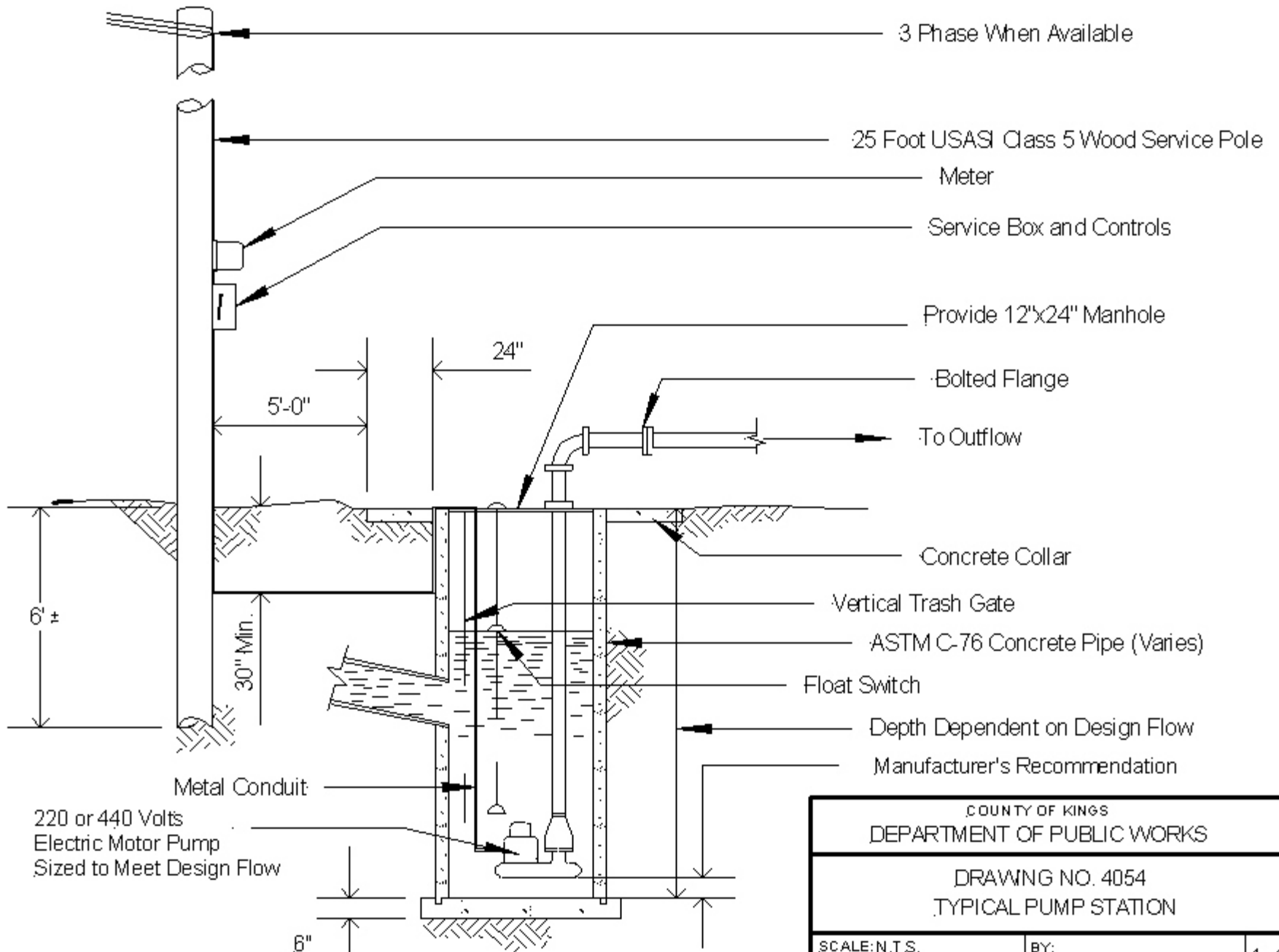
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COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 4054
TYPICAL PUMP STATION

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ARTICLE 5 --- WATER SUPPLY

Section 501 -- General

Any development, excepting Agricultural, shall attach to a central water supply in accordance with either Section 502 or 503. However, individual water supply systems conforming to Section 504, may be allowed in RR, R-1-20, CR, Industrial and Commercial zones if it is determined by the Decision Maker that:

- 1) The lots proposed are of sufficient size to allow for use of septic tank and leaching fields if proposed, and
- 2) There will be no adverse effect on adjoining property, and
- 3) Future users of the water can be assured of acceptable water quality and quantity.

Section 502 -- Connection to an Existing System

If connection to an existing system is required, the developer must conform to the requirements set forth by the agency to which the water system will be attached. No cross connection between the system and any private system will be allowed. The developer must obtain a written statement that the agency will accept maintenance of the development's water system.

Section 503 -- Construction of a Central Water System

When a central water system is proposed or required, the operation and maintenance of the system shall be by a public agency (district), private company, or other legally enforceable arrangement acceptable to the Decision Maker which will insure reliable future water service to all lots.

- A. New Water System: Construction of a new water distribution system and well shall be done under the review and approval of the offices of the County Fire Department, County Public Works Department, and the County Health Department, and if there are to be 200 or more service connections, the State Department of health Services. Generally, the construction

and material standards shall conform to the "Uniform Plumbing Code," American Water Works Association Standards and any local ordinance, where the same may be applied.

- B. General Design: The water system shall be designed to accommodate both domestic usage and fire flows. The minimum peak flow shall be "Qt" (in gallons per minute) and it shall be obtained by adding the two (2) hour peak domestic usage "Qd" (from 1(a) below) and 50% of the fireflow "Qf" (from Table 5032) given area; however, Qt shall not be less than the fireflow requirement. In equation form this can be expressed as follows:

$$Q_t = Q_f \text{ when } Q_d < 0.5 Q_f$$

$$Q_t = Q_d + 0.5 Q_f \text{ if } Q_d > 0.5 Q_f$$

The minimum storage requirement shall be sufficient to contain 260 gallons per unit served plus 50% of the fire flow requirement for the duration shown in Table 5032. Water flows shall be computed as follows:

1. Domestic Supply (including commercial and industrial)

a. Personal consumption (residential)

The average annual per capita water usage shall be 150 gallons per day, with at least 3.5 capita per dwelling; yielding at least 525 gallons per day per dwelling. The system shall be designed to accommodate the peak two (2) hour period during the year. This flow (Qd in gallons per minute, gpm) shall be obtained from the following equation:

$$Q_d = f_m f_u 21.3 \text{ su}^{0.455}$$

where:

f_m = Factor for metered service

= 2 for metered

= 2.5 for unmetered (with yard irrigation)

f_u = Factor for type of use

= 1.05 for single family units

= 0.60 for duplex and triplex units

= 0.50 for apartment building units

SU = Number of units served

In lieu of the above equation Q_d may be obtained from Drawing 5031 within the ranges illustrated.

b. Commercial and Industrial Supply

The amount of water usage in Commercial and Industrial developments will be determined by the Public Works Director on the basis of proposed or expected usage.

c. Notwithstanding these Improvement Standards, any public water system must comply with minimum storage volume, system pressure and source capacity specified in the most recent water works standards adopted by the State Department of Health Services.

2. Fire Flows

The minimum fire flow " Q_f " in gallons per minute shall be determined by the County Fire Department. This department shall be guided by, but may adjust, the quantities set forth in Table 5032 on the basis of local conditions, exposure, congestion, availability of water and type of building construction.

In Rural Residential (RR) zones, development shall be exempt from the fire flow requirements when a complete on-site system upon and for each individual lot is provided and the developer guarantees that the following conditions are met:

- a. No structure is located closer than twenty (20) feet from any property line.
- b. No structure is located closer than forty (40) feet from any existing structure located on an adjacent parcel.

DESIGN TABLE 5032
FIRE FLOW REQUIREMENTS

Land Use	Minimum Fire Flow Requirement (gpm)	Minimum Duration (Hrs)	Maximum Hydrant Spacing (ft)
Ag	None	None	None
RRE	300	2	1200
RRA, R1-20	400	2	1000
R1-12	500	2	600
R1-8	600	3	600
R1-6	750	4	600
RM	1000	6	600
PF	1000 to 1500	6-8	600

Notes:

- Primary determinant of requirements shall be character of the land use proposed rather than the zone district within which it is located.
- Actual flow to be determined by the County fire Department and may be lower or higher **than that presented..**
- Hydrant spacing is designed to place structures to be protected within 600 ft. of a hydrant utilizing 1200 ft. spacing, 500 ft. for 1000 ft. spacing, and 300 ft. for 600 ft. spacing.
- There may be additional requirements by the County Fire Department

MINIMUM STORAGE REQUIREMENTS

When water storage is used to meet the above flow requirements, the storage system shall be furnished with the following:

- Pressure system and float device to keep tank full at all times.
- Outlet for fire hook-up shall be easily accessible all year, and shall be a 4-1/2 inch outlet with standard threads and male outlet with cap.

- Tank shall be no further than 50 ft. from buildings unless larger, approved outlet is provided.

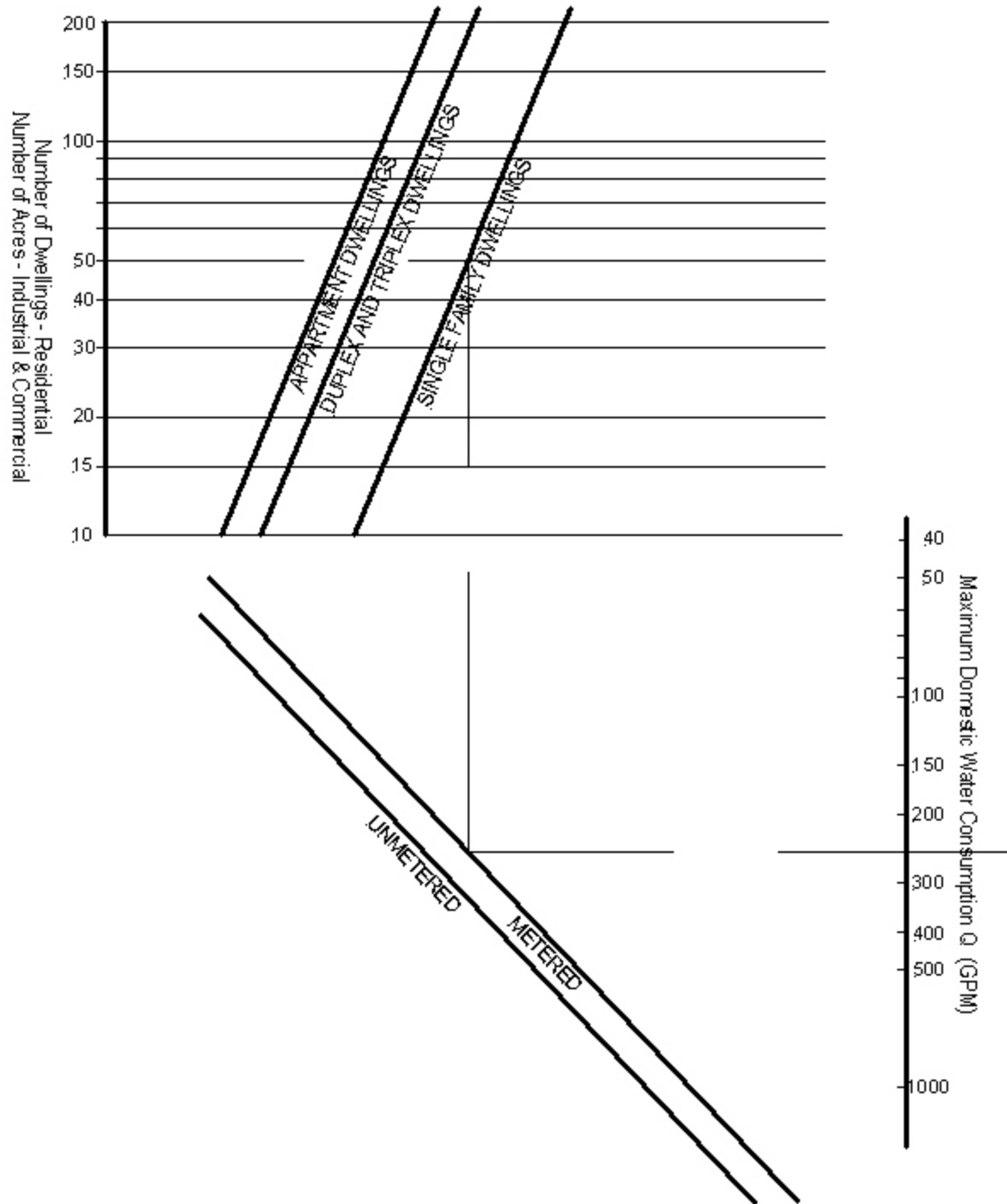
Section 504 -- Fire Hydrants

Fire Hydrants shall be installed in all Medium and High Density Residential and in Commercial and Industrial developments. The hydrants shall be constructed as shown on Drawing 5032.

They shall equal or exceed AWWA Standard C505-75 Acceptable fire hydrants are listed below:

Flows below 1000 GPM	Flows of 1000GPM and over
With 1- 2 ½" Hose Outlet and 1-4 ½" Steamer Outlet	With 2- 2 ½" Hose Outlet and 1-4 ½" Steamer Outlet
James Jones J3740	James Jones J3760
Clow Series 2000, Style 75-1/2	Clow Series 2000, Style 76
American AVK High Pressure Wet Barrel, Series 2470	American AVK High Pressure Wet Barrel, Series 2470

All outlets shall have National Hose Standard Thread.

**EXAMPLE:**

GIVEN: 50 dwellings, single family on meters.

FIND: Maximum domestic consumption.

SOLUTION: start at left with 50 dwellings, proceed right and intersect "Single Family Dwellings" curve, proceed down to "metered" curve, then proceed right and intersect 250 GPM.

NOTE:

FIREFLOW NOT INCLUDED In this value - Must be added in order to obtain total flow requirement.

COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 5031
MAXIMUM DOMESTIC WATER USE

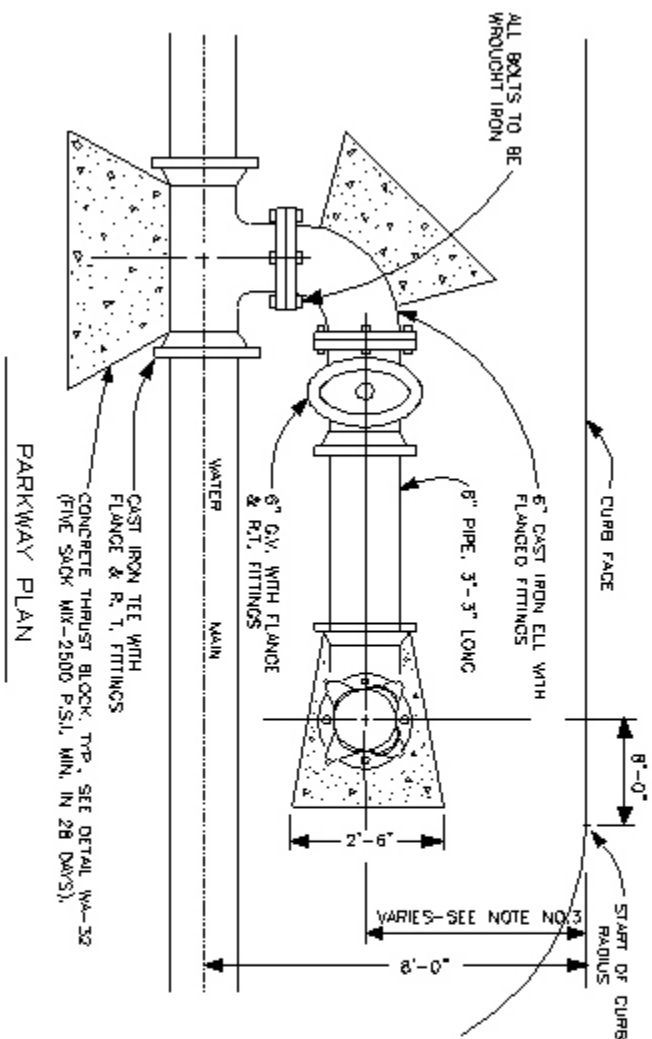
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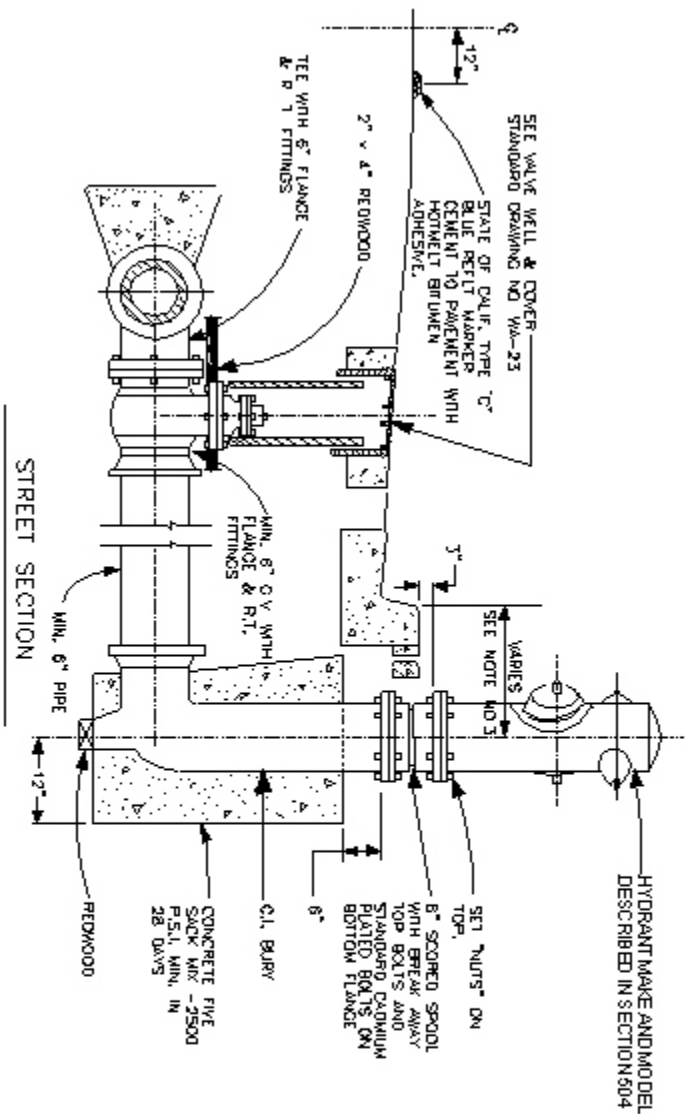
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PARKWAY PLAN



NOTE:

1. FIRE HYDRANTS AT STREET CORNERS SHALL BE LOCATED BEHIND THE SIDEWALK - 8' - 0" OUTSIDE CURB RETURNS.
2. SET "OUTLETS" @ 45 ± TO CURB FACE.
3. RESIDENTIAL, 6'-6" ; COMMERCIAL, 2'-0" (W/ ≥ 7.5' WIDE SIDEWALK)

COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 5032
TYPICAL FIRE HYDRANT

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Section 505 -- Individual Water System

Individual water systems are governed by county ordinance and state law. These laws are administered by the County Health, Public Works and Building Departments. Construction of the well shall be done under review of the County Health and Public Works Departments and shall conform to requirements of applicable County Ordinances.

ARTICLE 6 --- SANITARY SEWERAGE

Section 601 -- General

A development shall attach to a central sewage treatment facility in conformance with either Section 602 or 603. Individual septic tanks may be allowed on agricultural, low density residential, rural commercial, industrial, and commercial developments only under conditions stated in Section 604 or 605. Ag parcels five (5) acres and over may be exempted by the Health Officer from conditions stated in Section 605. In the event that there are differences between these standards and the "Guidelines for Waste Disposal from Land Developments" of the California Regional Water Quality Control Board, the State's guidelines shall apply.

Section 602 -- Connection to Existing System

If connection to an existing system is required, the developer must conform to the requirements set forth by the agency to which the sanitary sewage system will be attached. The developer must obtain a written statement from the agency that they will maintain the development's sanitary sewer system.

Section 603 -- Construction of a Sewage Treatment Facility

If construction of a sewage treatment facility is required, the operation and maintenance of said system shall be by a public agency (district), or private company suitable to the Board of Supervisors. The policy shall be to encourage formation of districts embracing as large an area as possible. Construction of a new community sewage system shall be subject to review and approval by the County Health Department, County Public Works Department, and the California Regional Water Quality Control Board, Central Valley Region.

Section 604 -- Septic Tank and Dry Line Construction Adjoining Public Systems

When the Decision Maker determines that a development may be within five (5) years be able to connect to an existing public sanitary sewer system, then septic tank and dry line

construction are subject to the following conditions in addition to those stated in Section 605 below.

- A. Inspection of dry lines, during the course of their installation, is to be provided by the County Health Department if within street right-of-way, and by the Building Inspection Department when on private property.
- B. The dry lines shall be engineered in conformance with the design and specifications acceptable to the authority operating the nearest existing public system, provided that the requirements of said authority are not less restrictive than the minimum standards of the Kings County Health Department.
- B. There shall be written assurance by the existing public system that title to the dry lines will be accepted by the authority operating the nearest existing public system.
- C. At the time of abandonment of the septic tank system, such abandonment shall be conducted in accordance with the requirements of Chapter, Sections 24400- 24404 of the California Health and Safety Code and any County waste ordinance.
- D. The septic tank shall be at the front of the house.

Section 605 -- Septic Tanks in Rural Areas

In developments involving the division of land (Section 107-H,1) the septic tank effluent disposal system shall be of a type acceptable to and meet the requirements of the California Regional Water Quality Control Board, the County Health Department, and any local ordinances enacted for the purpose of controlling the use and installation of said system. The following are general conditions which must exist before any such development is allowed:

- 1. The new development must be outside of any previously developed area, and
- 2. If the method of effluent disposal is to be percolation into the ground, then
 - a) The distance to the anticipated highest level of groundwater or the first impervious soil layer must be in excess of eight (8) feet as determined by the County Health Officer, and
 - b) Percolation tests conforming to procedures contained in current United States Department of Health, Education and Welfare "Manual of Septic Tank Practice"

shall indicate that the typical percolation rate of any future leaching field in the development should not be in excess of sixty (60) minutes per inch, as determined by the County Health Officer, and

- c) The development must conform to other requirements of the California Regional Water Quality Control Board with respect to lot sizes, minimum distances, percolation rates, depth to groundwater, slope of ground, etc., as determined by the County Health Officer.
- d) In areas that cannot meet the specified criteria, specially designed septic tank - leaching systems may be allowed under conditions established by the Regional Water Quality Control Board's "Guidelines for Waste Disposal from Land Developments." Development plans which designate areas to be reserved for sewage disposal and/or water supply systems may be required to insure that adequate setbacks are maintained. Special system designs and development plans shall be subject to review and approval by the County Health Department.

B. In developments involving construction which requires a site plan review (Section 107-F, 2) the use of septic tank and leaching field may be allowed under the following conditions:

1. Requirements of the "California Regional Water Quality Control Board" must be met; and
2. Local Health requirements must be met.

ARTICLE 7 --- MISCELLANEOUS REQUIREMENTS

Section 701 -- Fencing

A. General

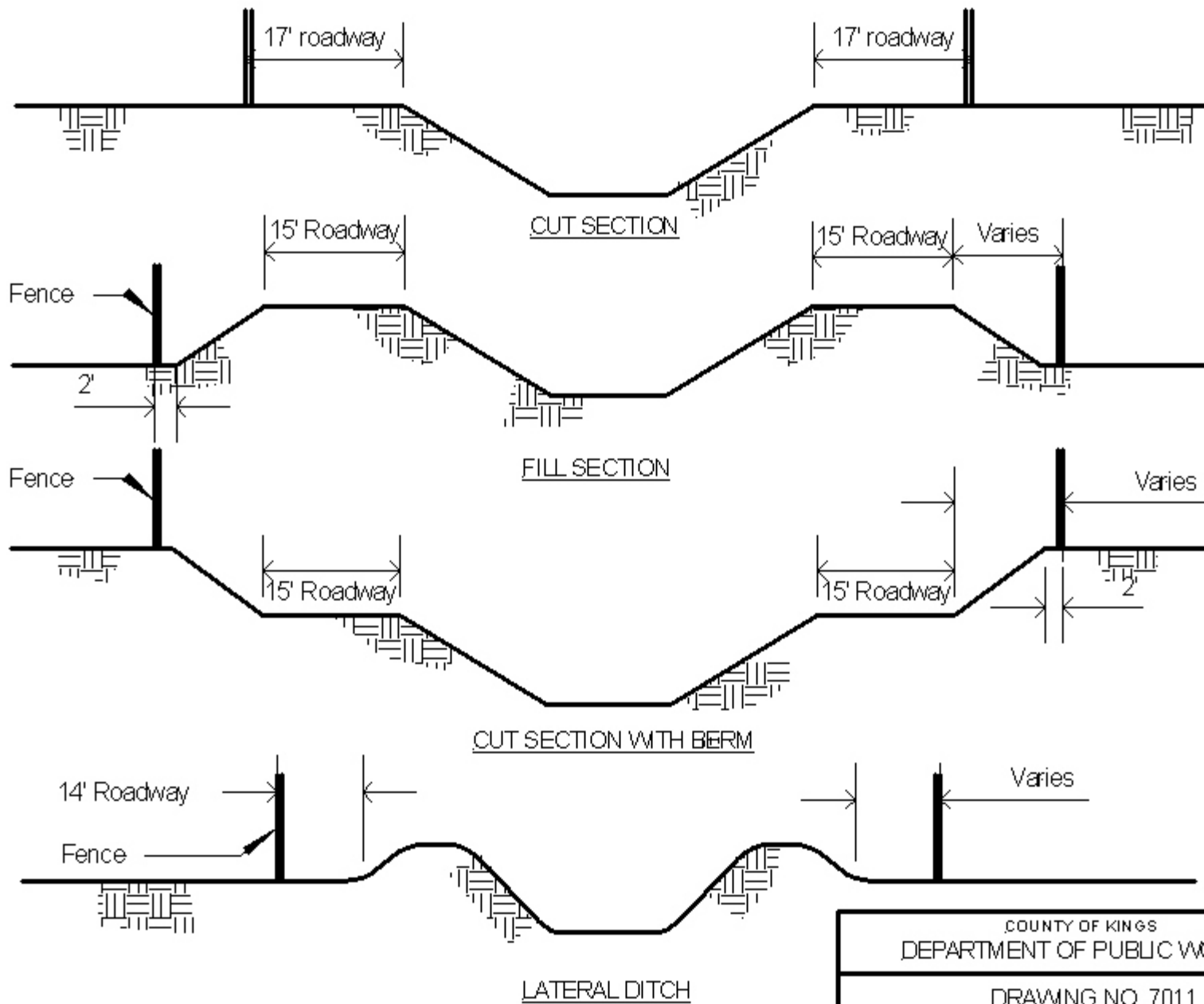
1. In all developments, excepting agricultural lots, fencing shall be provided when any one of the following conditions exist:
 - a. The Decision Maker determines that fencing is necessary to provide protection from possible hazards or to provide a screen against noise and/or unsightliness.
 - b. A development is traversed by or adjacent to an open ditch which could carry more than fifty (50) cubic feet per second of water.
2. Fencing shall be provided in an agricultural development when:
 - a. There are two or more parcels less than five (5) acres in size, adjacent to the ditch.
 - b. When any one of the conditions in 1 (a) and 1 (b) above exist.

B. Hazard Control Fencing

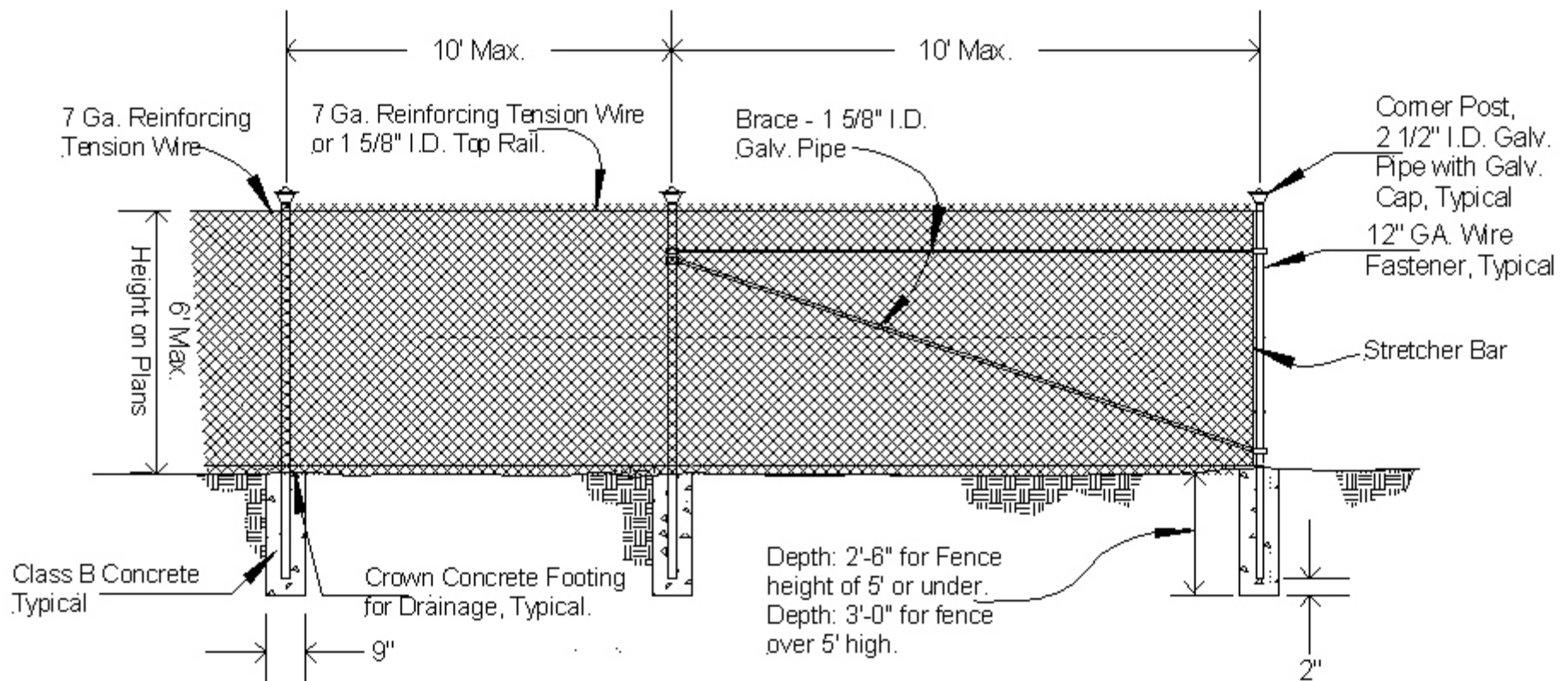
This type of fencing shall be six (6) feet above the ground and shall be chain link fencing which is to be furnished and installed in accordance with Standard Drawing Numbers 7012 and 7013. The fence shall have three (3) strand barbed wire along the top. Fencing along open channels should be located in accordance with Drawing 7011 or as recommended by the agency maintaining the facility. The Decision Maker shall finally determine the exact location.

C. Sight and Sound Fencing

This fencing shall be a minimum of six (6) feet above the ground. A drawing of proposed construction must be submitted to the Public Works Department for their review and approval. Material shall be redwood lumber unless an alternate is approved by the Public Works Department.



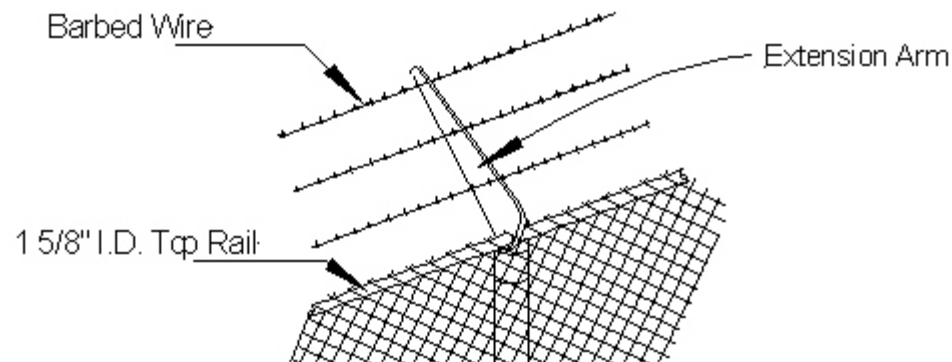
COUNTY OF KINGS DEPARTMENT OF PUBLIC WORKS		
DRAWING NO. 7011 OPEN CHANNEL FENCING		
SCALE: N.T.S.	BY:	1/1
DATE: 8/6/02	APP.:	



NOTES:

1. POST FOOTINGS SHALL BE PLACED IN NATURAL UNDISTURBED SOIL OR TESTED AND APPROVED COMPACTED FILL.

2. THE FOLLOWING ITEMS SHALL BE FURNISHED AND INSTALLED ONLY WHEN SHOWN ON PLANS AND/OR CALLED FOR IN THE SPECIAL PROVISIONS: a) Barbed Wire, b) Extension Arm, c) Top Rail.



COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 7012
CHAINLINK FENCE STANDARD

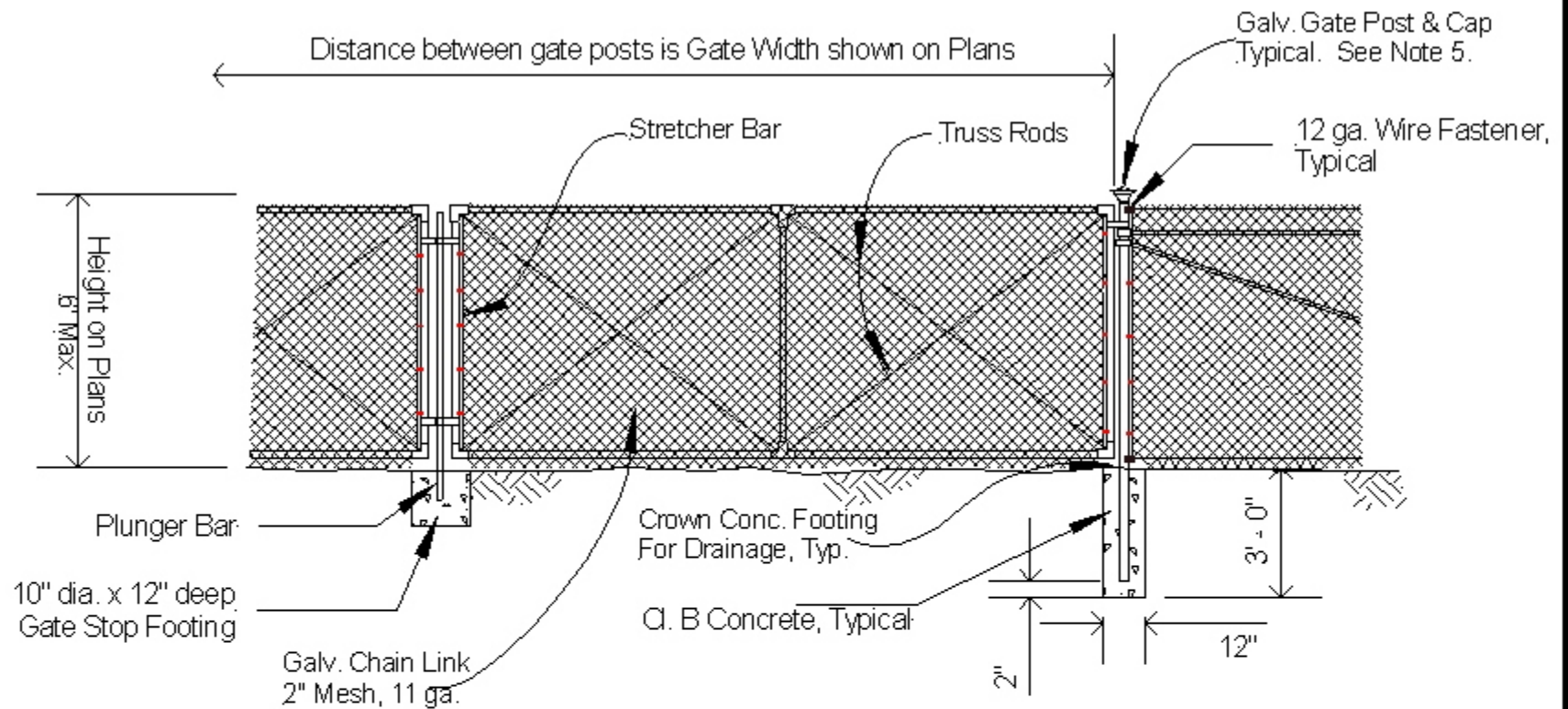
SCALE: N.T.S.

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DATE: 8/6/02

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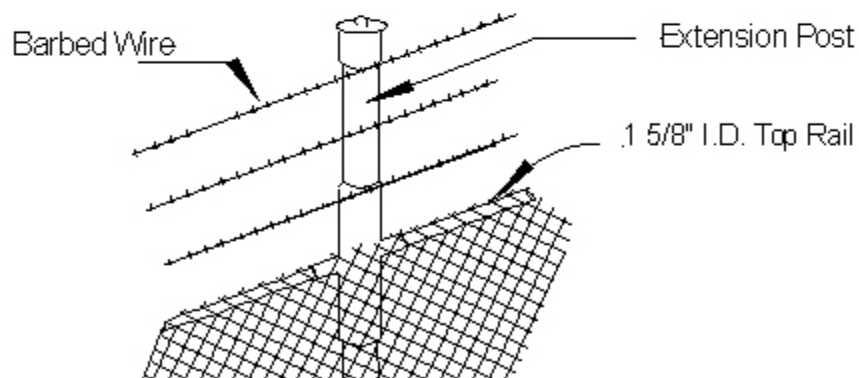
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NOTE:

1. Gate Posts - Use 2 1/2" I.D. pipe for double gate widths up to 12' and 4" I.D. pipe for double gate widths 12' to 24'.

2. The following items shall be furnished and installed only when shown on plans and/or called for in the Special Provisions:
a) barbed wire, b) extension post.



COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

DRAWING NO. 7013
CHAINLINK GATE STANDARD

SCALE: N.T.S.

DATE: 8/6/02

BY:

APP:

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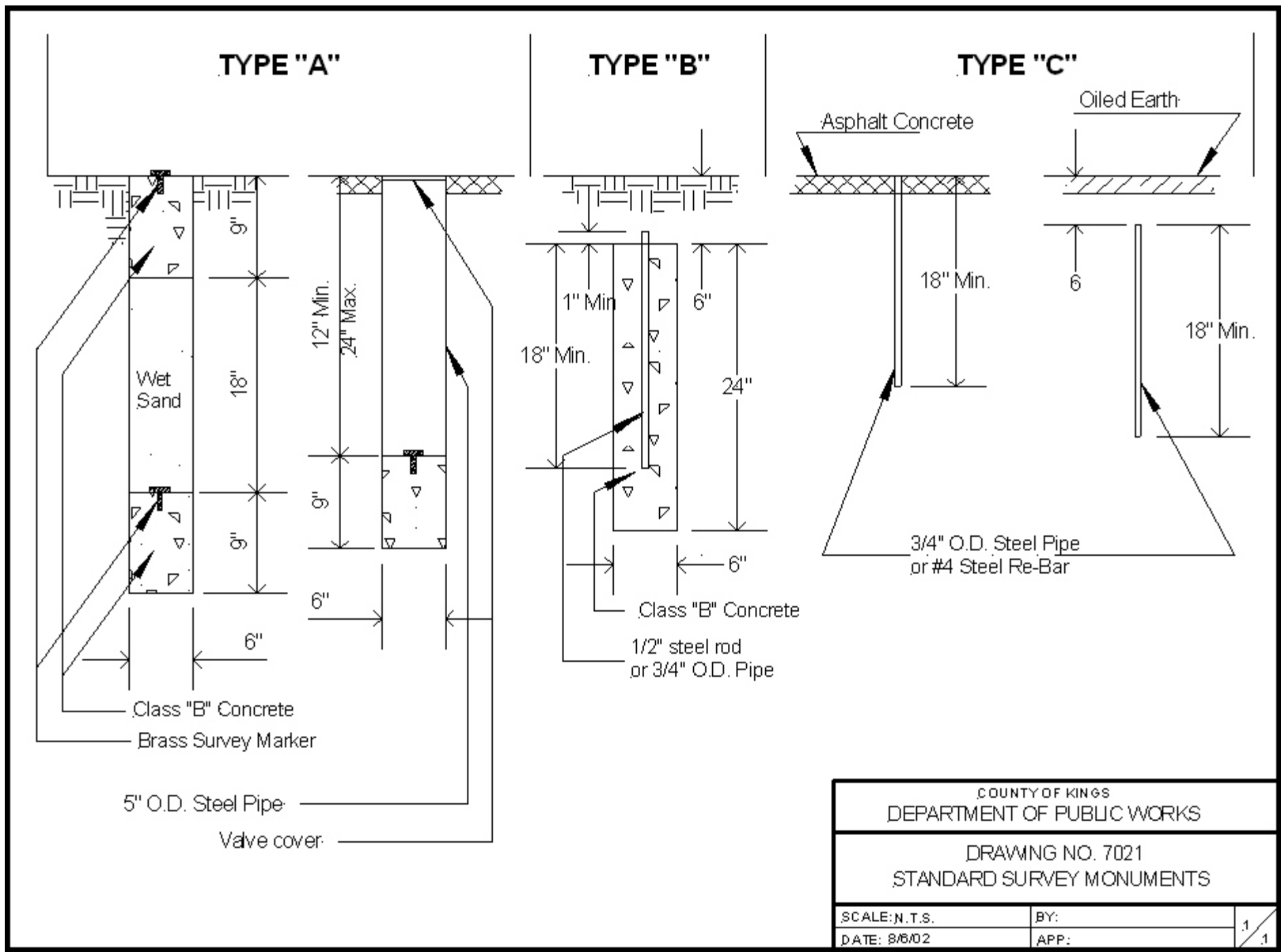
Section 702 -- Monumentation

Monumentation, when required by County Ordinance or by the Kings County Surveyor, shall be placed and constructed as shown in Table 7021 and on Drawing 7021, and shall be permanently tagged in a manner suitable to the Kings County Surveyor.

Concrete used in monuments shall be at least Class B, as described in the State Standard Specifications. The brass survey points and lead plugs shall be of format and quality suitable to the Kings County Surveyor.

TABLE 7021
SURVEY MONUMENT REQUIREMENTS

Monument Type	Description	Locations to be Used
A.	Single or double brass cap monument in 6" diameter concrete	section Corners and Quarter Corners
B.	3/4" OD pipe or 1/2" steel rod, in 6" diameter concrete	a) Monuments on perimeter of Subdivisions at all angle points (including B.C.'s and E.C.'s). b) At centerline intersection of all streets (including B.C.'s and E.C.'s where curb and gutters are not used.)
C.	3/4" OD pipe 18" long, or 4 rebar 18" long in ground	a) At centerline intersection of all streets (including B.C.'s and E.C.'s) where curbs are present. b) At all lot corners
D.	2"x2" redwood stake, 14" long with brass tag and nail	May be used at locations where the high alkalinity may be expected to corrode metal pipe.



Section 703 -- Frontage Roads

Frontage roads placed immediately adjacent to and parallel with Urban Arterial roads will not be permitted unless found acceptable to the Board of Supervisors. The County's policy shall be to waive the requirement that developers construct street appurtenances on the Urban Arterial when lots have their back on the Arterial Road.

Section 704 -- Underground Utilities

Utilities placed under the paved portion of new roadways shall be installed prior to paving. Utilities shall have a minimum cover of thirty (30) inches except as otherwise permitted by the Public Works Director. The minimum relative compaction of 80% as determined by test method No. Calif. 216, except that within street areas the relative compaction will be a minimum of 90%. Utilities in new subdivisions shall be placed underground in accordance with standards of the serving utility company and in accordance with rules, regulations and orders of the Public Utilities Commission, of the state of California as they may apply to installation of such utility. Where such rules and regulations do not require undergrounding, then it will not be necessary to underground.

Section 705 -- Street Lighting

Street lighting shall be installed in those developments within or near to a district or city, which district or city 1) has requested street lighting and 2) will be responsible for maintaining and/or payment for the lighting. Lighting shall conform to standards of the district or city involved. In any case, where requested by a city or district, the developer may be required to provide underground conduit and stub-outs for future lights.

Section 706 -- Air Quality

Specific Improvements may be required by the Decision Maker for any development which could otherwise result in air pollution problems. Such problems include public nuisance, hazards to public health, livestock or wildlife or damage to property or vegetation resulting from the existence of the development as either a source or receptor of air pollution.

Section 707 -- Noise

Specific mitigation measures may be required to the Decision Maker for any development which would result in noise effects on the community, or on the development from the community, which would interfere with the implementation of the goals and policies of the Noise Element of the County General Plan. Required improvements may include source abatement, placing a barrier in the sound path, blocking the receiver from the source or other mitigation methods consistent with the Noise Element.